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VOL. LXVI.



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MDCCCXX.

"In adopting our title of the *Journal of Mental Science*, published by authority of the Medico-Psychological Association, we profess that we cultivate in our pages mental science of a particular kind, namely, such mental science as appertains to medical men who are engaged in the treatment of the insane. But it has been objected that the term mental science is inapplicable, and that the term mental physiology or mental pathology, or psychology, or psychiatry (a term much affected by our German brethren), would have been more correct and appropriate; and that, moreover, we do not deal in mental science, which is properly the sphere of the aspiring metaphysical intellect. If mental science is strictly synonymous with metaphysics, these objections are certainly valid; for although we do not eschew metaphysical discussion, the aim of this JOURNAL is certainly bent upon more attainable objects than the pursuit of those recondite inquiries which have occupied the most ambitious intellects from the time of Plato to the present, with so much labour and so little result. But while we admit that metaphysics may be called one department of mental science, we maintain that mental physiology and mental pathology are also mental science under a different aspect. While metaphysics may be called speculative mental science, mental physiology and pathology, with their vast range of inquiry into insanity, education, crime, and all things which tend to preserve mental health, or to produce mental disease, are not less questions of mental science in its practical, that is in its sociological point of view. If it were not unjust to high mathematics to compare it in any way with abstruse metaphysics, it would illustrate our meaning to say that our practical mental science would fairly bear the same relation to the mental science of the metaphysicians as applied mathematics bears to the pure science. In both instances the aim of the pure science is the attainment of abstract truth; its utility, however, frequently going no further than to serve as a gymnasium for the intellect. In both instances the mixed science aims at, and, to a certain extent, attains immediate practical results of the greatest utility to the welfare of mankind; we therefore maintain that our JOURNAL is not inaptly called the *Journal of Mental Science*, although the science may only attempt to deal with sociological and medical inquiries, relating either to the preservation of the health of the mind or to the amelioration or cure of its diseases; and although not soaring to the height of abstruse metaphysics, we only aim at such metaphysical knowledge as may be available to our purposes, as the mechanic uses the formularies of mathematics. This is our view of the kind of mental science which physicians engaged in the grave responsibility of caring for the mental health of their fellow-men may, in all modesty, pretend to cultivate; and while we cannot doubt that all additions to our certain knowledge in the speculative department of the science will be great gain, the necessities of duty and of danger must ever compel us to pursue that knowledge which is to be obtained in the practical departments of science with the earnestness of real workmen. The captain of a ship would be none the worse for being well acquainted with the higher branches of astronomical science, but it is the practical part of that science as it is applicable to navigation which he is compelled to study."—Sir J. C. Bucknill, M.D., F.R.S.

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 1878. Baker, H. Morton, M.B., C.M.Edin., 7, Belsize Square, London, N.W. 3.
 1888. Baker, Sir John, M.D., C.M.Aberd., Medical Superintendent, State Asylum, Broadmoor, Berks.
 1904. Barham, Guy Foster, M.A., M.D., B.C.Cantab., M.R.C.S., L.R.C.P.Lond., Medical Superintendent, Claybury Asylum, Woodford Bridge, Essex.
 1919. Barkas, Mary Rushton, M.R.C.S., L.R.C.P.Lond., Temporary Assistant Medical Officer, Bethlem Royal Hospital, Lambeth, London, S.E. 1; and 46, Connaught Street, London, W. 2.
 1913. Barkley, James Morgan, M.B., Ch.B.Edin. (Senior Medical Officer, Bracebridge Asylum, Lincolnshire).
 1910. Bartlett, George Norton, M.B., B.S.Lond., M.R.C.S., L.R.C.P.Lond., Medical Superintendent, City Asylum, Exeter.
 1901. Baskin, J. Lougheed, M.D.Brux., L.R.C.P.&S.Edin., L.R.F.P.&S.Glas.
 1902. Baugh, Leonard D. H., M.B., Ch.B.Edin., The Pleasaunce, York.
 1874. Beach, Fletcher, M.B., F.R.C.P.Lond., *formerly Medical Superintendent, Darenth Asylum, Dartford*; 5, De Crespigny Park, Denmark Hill, S.E. 5. (*Secretary Parliamentary Committee, 1896-1906. General Secretary, 1889-1896. PRESIDENT, 1900.*)
 1892. Beadles, Cecil F., M.R.C.S., L.R.C.P.Lond., Gresham House, Egham Hill, Egham.
 1913. Bedford, Percy William Page, M.B., Ch.B.Edin., County Asylum, Lancaster.
 1909. Beeley, Arthur, M.Sc.Leeds, M.D., B.S.Lond., M.R.C.S., L.R.C.P.Lond., D.P.H.Camb. (*Assistant Medical Officer, E. Sussex Educational Committee*), Windybank, King Henry's Road, Lewes.
 1914. Bennett, James Wodderspoon, M.R.C.S., L.R.C.P.Lond., County Mental Hospital, Stafford.
 1912. Benson, Henry Porter D'Arcy, M.D., C.M.Edin., M.R.C.P., F.R.C.S. Edin., Medical Superintendent, Farnham House, Finglas, Dublin.
 1914. Benson, John Robinson, F.R.C.S.Eng., L.R.C.P.Lond., Resident Physician and Proprietor, Fiddington House, Market Lavington, Wilts.
 1899. Beresford, Edwyn H., M.R.C.S., L.R.C.P.Lond., Medical Superintendent, Tooting Bec Asylum, Tooting, London, S.W. 17.
 1912. Bernecastle, Herbert M., M.R.C.S.Eng., L.R.C.P.Lond., Assistant Medical Officer, Croydon Mental Hospital, Warlingham, Surrey.
 1894. Blachford, James Vincent, C.B.E., M.D., B.S.Durh., M.R.C.S., L.R.C.P.Lond., M.P.C., City Asylum, Fishponds, Bristol.
 1913. Black, Robert Sinclair, M.A.Edin., M.D., C.M.Aberd., D.P.H., M.P.C., Medical Supt., Pietermaritzburg Mental Hospital, Natal, South Africa.
 1898. Blair, David, M.A., M.D., C.M.Glasg., County Asylum, Lancaster.
 1919. Blake, Stanley, L.R.C.P.&S.I.&L.M., Assistant Medical Officer, Portrane Asylum, Donabate, Ireland.
 1919. Blakiston, Frederick Cairns, M.R.C.S., L.R.C.P., Medical Superintendent, Isle of Man Asylum.
 1897. Blandford, Joseph John Guthrie, B.A., D.P.H.Camb., M.R.C.S., L.R.C.P.Lond., Whalley Asylum, Blackburn.
 1918. Blandford, Walter Folliott, B.A.Camb., M.R.C.S., L.R.C.P.Lond., Temporary Assistant Medical Officer, Caterham Asylum, Caterham, Surrey.
 1904. Bodvel-Roberts, Hugh Frank, M.A.Cantab., M.R.C.S., L.R.C.P.Lond., L.S.A., Napsbury Mental Hospital, near St. Albans, Herts.
 1900. Bolton, Joseph Shaw, M.D., B.S., D.Sc., F.R.C.P.Lond., Medical Superintendent, West Riding Asylum, Wakefield.
 1892. Bond, Charles Hubert, D.Sc., M.D., C.M.Edin., F.R.C.P.Lond., M.P.C., Commissioner of the Board of Control, 66, Victoria Street, London, S.W. 1. (*Hon. General Secretary, 1906-12.*)
 1918. Bower, Cedric William, L.M.S.S.A., Joint Medical Officer, Springfield House, near Bedford.
 1877. Bower, David, M.D., C.M.Aber., Springfield House, Bedford. (*Chairman, Parliamentary Committee, 1907-1910.*)

1877. Bowes, John Ireland, M.R.C.S.Eng., L.S.A. (address uncommunicated.)
1917. Bowie, Edgar Ormond, L.A.H.Dub., Dip. Grant Med. Coll. Bombay, L.M.Coombe, Dublin; c/o W. H. Halliburton, Esq., 18, South Frederick Street, Dublin.
1900. Bowles, Alfred, M.R.C.S., L.R.C.P.Lond., 10, South Cliff, Eastbourne.
1896. Boycott, Arthur N., M.D.Lond., M.R.C.S., L.R.C.P.Lond., Medical Superintendent, Herts County Asylum, Hill End, St. Albans, Herts. (*Hon. Sec. for S.-E. Division, 1900-05.*)
1898. Boyle, A. Helen A., M.D.Bru., L.R.C.P.&S.Edin., 9, The Drive, Hove, Brighton.
1883. Boys, A. H., L.R.C.P.Edin., M.R.C.S.Eng., L.S.A.Lond., The White House, St. Albans.
1891. Braine-Hartnell, George M. P., M.R.C.S., L.R.C.P.Lond., Medical Superintendent, County and City Asylum, Powick, Worcester.
1911. Brander, John, M.B., C.B.Edin., Assistant Medical Officer, London County Mental Hospital, Bexley, Kent.
1919. Branthwaite, Robert Welsh, C.B., M.D.Bru., M.R.C.S., L.R.C.P., D.P.H.Lond., Commissioner of the Board of Control, 66, Victoria Street, London, S.W. 1.
1918. Brend, William Alfred, M.D.Lond., 14, Bolingbroke Grove, London, S.W. 11.
1905. Brown, Harry Egerton, M.D., Ch.B.Glasg., M.P.C., Mental Hospital, Fort Beaufort, Cape Province, S. Africa.
1908. Brown, Robert Cunyngham, O.B.E., M.D., B.S.Durh. (General Board of Lunacy, 25, Palmerston Place, Edinburgh); Administrator, Springburn and Woodside Central Hospital, Glasgow.
1908. Brown, R. Dods, M.D., Ch.B., F.R.C.P., Dipl. Psych., D.P.H.Edin., Medical Superintendent, The Royal Asylum, Aberdeen.
1912. Brown, William, M.D., C.M.Glas., M.P.C., District Medical Officer, Adviser in Lunacy to Bristol Magistrates, 1, Manor Road, Fishponds, Bristol.
1916. Brown, William, M.A., M.B., B.Ch.Oxon., D.Sc.Lond., Reader in Psychology in the University of London (King's College), (King's College, Strand, London, W.C. 2); 14, Welbeck Street, W. 1.
1917. Bruce, Alexander Ninian, M.D., D.Sc., F.R.C.P.E., Lecturer on Neurology, University of Edinburgh, 8, Ainslie Place, Edinburgh.
1893. Bruce, Lewis C., M.C., M.D., F.R.C.P.Edin., M.P.C., Medical Superintendent, District Asylum, Druid Park, Murthly, N.B.) (*Co-Editor of Journal 1911-1916; Hon. Sec. for Scottish Division, 1901-1907.*)
1913. Brunton, George Llewellyn, M.D., Ch.B.Edin., North Riding Asylum, Clifton, York.
1912. Buchanan, William Murdoch, M.B., Ch.B.Glas., Kirklands Asylum, Bothwell, Lanarkshire.
1908. Bullmore, Charles Cecil, J.P., L.R.C.P.&S.Edin., L.R.F.P.&S.Glas., Medical Superintendent, Flower House, Catford, London, S.E. 6.
1912. Burke, J. D., M.B., B.Ch., R.U.I., St. Audry's Hospital, Melton, Suffolk.
1911. Buss, Howard Decimus, B.A., B.Sc.France, M.D.Bru.&Cape, M.R.C.S., L.R.C.P., L.M.S.S.A.Lond., Assistant Medical Officer, Fort Beaufort Asylum, Cape Colony.
1910. Cahir, John P., M.B., B.Ch.R.U.I., 198, Camberwell New Road, Camberwell, London, S.E. 5.
1891. Caldecott, Charles, M.B., B.S.Lond., M.R.C.S., L.R.C.P.Lond., Medical Superintendent, Royal Earlswood Institution, Redhill, Surrey.
1913. Cameron, John Allan Munro, M.B., Ch.B.Glas. Address uncommunicated.
1894. Campbell, Alfred Walter, M.D., C.M.Edin., M.P.C., Macquarie Chambers, 183, Macquarie Street, Sydney, New South Wales.
1909. Campbell, Donald Graham, M.B., C.M.Edin., "Auchinellan," 12, Reidhaven Street, Elgin.
1914. Campbell, Finlay Stewart, M.D., C.M.Glas., Deputy Director of Medical Services, Ministry of National Service, Ayr, Scotland.

1897. Campbell, Robert Brown, M.D., C.M., F.R.C.P.E., Stirling District Asylum, Larbert. (*Secretary for Scottish Division from 1910.*)
1905. Carre, Henry, L.R.C.P.&S.Irel., Woodilee Asylum, Lenzie, Glasgow.
1891. Carswell, John, L.R.C.P.Edin., L.R.F.P.&S.Glasg., 43, Moray Place, Edinburgh; Commissioner-General, Board of Control, Scotland.
1874. Cassidy, D. M., M.D., C.M.McGill Coll., Montreal, D.Sc. (Public Health) F.R.C.S.Edin., Medical Superintendent, County Asylum, Lancaster.
1888. Chambers, James, M.A., M.D.R.U.I., M.P.C., The Priory, Roehampton, London, S.W. 15. (*Co-Editor of Journal 1905-1914, Assistant Editor 1900-05.*) (*PRESIDENT, 1913-14.*) (*Treasurer since 1917.*)
1911. Chambers, Walter Duncanon, M.A., M.D., Ch.B.Edin., M.P.C., Deputy Commissioner, 1, Craiglea Place, Edinburgh.
1865. Chapman, Thomas Algernon, M.D.Glas., L.R.C.S.Edin., F.R.S., F.Z.S., Betula, Reigate.
1915. Cheyne, Alfred William Harper, M.B., Ch.B.Aber., Assistant Medical Officer, Royal Asylum, Aberdeen.
1917. Chisholm, Percy, L.R.C.P. & S.Edin., Assistant Medical Officer, Stirling District Asylum, Larbert.
1907. Chislett, Charles G. A., M.B., Ch.B.Glasg., Medical Superintendent, Stoneyetts, Chryston, Lanark.
1880. Christie, J. W. Stirling, L.R.C.P.&S.Edin., 21, St. Matthew's Gardens, St. Leonards-on-Sea.
1878. Clapham, Wm. Crochley S., M.D., F.R.C.P.Ed., M.R.C.S.Eng., F.S.S., The Five Gables, Mayfield, Sussex. (*Hon. Sec. N. and M. Division, 1897-1901.*)
1907. Clarke, Geoffrey, M.D.Lond., Senior Assistant Medical Officer, London County Mental Hospital, Banstead, Sutton, Surrey.
1910. Clarke, James Kilian P., M.B., B.Ch.R.U.I., D.P.H., High Street, Oakham.
1907. Clarkson, Robert Durward, B.Sc., M.D., C.M.Edin., F.R.C.P.Edin. (Medical Officer, Scottish National Institute for the Education of Imbecile Children), The Park, Larbert, Stirling.
1892. Cole, Robert Henry, M.D.Lond., F.R.C.P.Lond., 25, Upper Berkeley Street, London, W.1. (*Secretary of Parliamentary Committee since 1912.*)
1900. Cole, Sydney John, M.A., M.D., B.Ch.Oxon., Medical Superintendent, Wilts County Asylum, Devizes.
1906. Collier, Walter Edgar, M.R.C.S., L.R.C.P.Lond., Assistant Medical Officer, Kent County Asylum, Maidstone.
1903. Collins, Michael Abdy, O.B.E., M.D., B.S.Lond., M.R.C.S., L.R.C.P.Lond., Chartham Down, near Canterbury, Kent. (*Hon. General Secretary, 1912-18.*)
1910. Conlon, Thomas Peter, L.R.C.P.&S.Irel., Resident Medical Superintendent, District Asylum, Monaghan.
1914. Connolly, Victor Lindley, M.C., M.B., B.Ch.Belfast, Assistant Medical Officer, Long Grove Mental Hospital, Epsom, Surrey.
1910. Coombes, Percival Charles, M.R.C.S., L.R.C.P.Lond., Medical Superintendent, Surrey County Asylum, Netherne.
1905. Cooper, K. D., L.R.C.P.&S.Edin., L.R.F.P.&S.Glas., c/o Leopold & Co. Apollo, Bunder, Bombay.
1903. Cormac, Harry Dove, M.B., B.S.Madras, Medical Superintendent, Cheshire County Asylum, Macclesfield.
1891. Corner, Harry, M.D.Lond., M.R.C.S., L.R.C.P.Lond., M.P.C., 37, Harley Street, London, W.1.
1917. Costello, Christopher, M.B., B.Ch., N.U.I., Assistant Medical Officer, Portrane Asylum, Ireland.
1897. Cotton, William, M.A., M.D.Edin., D.P.H.Cantab., M.P.C., 231, Gloucester Road, Bishopston, Bristol.
1910. Coupland, William Henry, L.R.C.S.&P.Edin., Medical Superintendent, Royal Albert Institution, Albert House, Haverbreaks, Lancaster.

1913. Court, E. Percy, M.R.C.S., L.R.C.P.Lond., Severalls Asylum, Colchester.
1893. Cowen, Thomas Philip, M.D., B.S. M.R.C.S., L.R.C.P.Lond., Medical Superintendent, County Asylum, Rainhill, Lancashire.
1911. Cox, Donald Maxwell, M.R.C.S., L.R.C.P.Lond., 2, Royal Park, Clifton, Bristol.
1918. Cox, Francis Michael, M.D., F.R.C.P.Lond., Physician, St. Vincent's Hospital, Dublin; Lord Chancellor's Consulting Visitor in Lunacy for County and City of Dublin; 26, Merrion Square, Dublin.
1893. Craig, Maurice, C.B.E., M.A., M.D., B.C.Cantab., F.R.C.P.Lond., M.P.C., 87, Harley Street, London, W. 1. (*Hon. Secretary of Educational Committee, 1905-8; Chairman of Educational Committee since 1912.*)
1897. Cribb, Harry Gifford, M.R.C.S., L.R.C.P.Lond., Medical Superintendent, Winterton Asylum, Ferryhill, Durham.
1911. Crichlow, Charles Adolphus, M.B., Ch.B.Glas. Roxburgh District Asylum, Melrose.
1917. Crocket, James, M.D.Edin., D.P.H., Medical Superintendent, Colony of Mercy for Epileptics, Consumption Sanatoria of Scotland, Craigielea, Bridge of Weir.
1914. Crookshank, Francis Graham, M.D., M.R.C.P.Lond., 15, Harley Street, London, W. 1.
1904. Cross, Harold Robert, L.S.A.Lond., F.R.G.S., Storthes Hall Asylum, Kirkburton, near Huddersfield.
1915. Crosthwaite, Frederick Douglas, M.B., Ch.B.Edin., D.P.H.Cantab., Assistant Physician, Pretoria Mental Hospital, South Africa.
1914. Cruickshank, J., M.D., Ch.B.Glas., Pathologist, Crichton Royal Hospital, Dumfries.
1919. Cuthbert, James Harvey, M.B., Ch.B.Edin., Senior Assistant Medical Officer, West Ham Mental Hospital, Goodmayes, Essex.
1907. Daniel, Alfred Wilson, B.A., M.D., B.C.Cantab., M.R.C.S., L.R.C.P.Lond., Medical Superintendent, London County Mental Hospital, Hanwell, London, W. 7. (*Secretary of Educational Committee.*)
1896. Davidson, Andrew, M.D., C.M.Aber., M.P.C., Wyoming, Macquarie Street, Sydney, N.S.W.
1914. Davies, Laura Katherine, M.B., Ch.B.Edin., Pathologist and Assistant Medical Officer, Edinburgh City Asylum, Bangour, Dechmont, Linlithgowshire.
1891. Davis, Arthur N., L.R.C.P.&S.Edin., Medical Superintendent, County Asylum, Exminster, Devon.
1894. Dawson, William R., O.B.E., B.A., M.D., B.Ch.Dubl., F.R.C.P.I., D.P.H., Inspector of Lunatics in Ireland, 7, Ailesbury Road, Dublin. (*Hon. Sec. to Irish Division, 1902-11; PRESIDENT, 1911-12; Co-Editor of the Journal since 1920.*)
1901. De Steiger, Adèle, M.D.Lond., County Asylum, Brentwood, Essex.
1905. Devine, Henry, O.B.E., M.D., B.S., F.R.C.P.Lond., M.R.C.S.Eng., M.P.C., Medical Superintendent, The Asylum, Milton, Portsmouth. (*Co-Editor of the Journal since 1920; Assistant Editor 1916-20.*)
1904. Devon, James, L.R.C.P. & S.Edin., 11, Rutland Square, Edinburgh.
1903. Dickson, Thomas Graeme, L.R.C.P. & S.Edin., The Merse Cottage, Bakewell, Derbyshire.
1915. Dillon, Frederick, M.B., Ch.B.Edin., Assistant Medical Officer, Northumberland House, Green Lanes, Finsbury Park, London, N. 4.
1909. Dillon, Kathleen, L.R.C.P.&S.I., Assistant Medical Officer, District Asylum, Mullingar.
1905. Dixon, J. Francis, M.A., M.D., B.Ch.Dubl., M.P.C., Medical Superintendent, Borough Mental Hospital, Humberstone, Leicester.
1879. Dodds, William J., M.D., C.M., D.Sc.Edin., 15, Marina Road, Prestwick, Ayrshire.
1908. Donald, Robert, M.D., Ch.B.Glas., 3, Gilmour Street, Paisley.
1889. Donaldson, William Ireland, B.A., M.D., B.Ch.Dubl., 2, Abbeylands, Killiney, Co. Dublin.

1892. Donelan, John O'Connor, L.R.C.P.&S.I., M.P.C., St. Dymphna's, North Circular Road, Dublin (Med. Supt., Richmond Asylum, Dublin).
1890. Douglas, William, M.D.R.U.I., M.R.C.S.Eng., F.R.G.S., Brandfold, Goudhurst, Kent.
1905. Dove, Augustus Charles, M.D., B.S.Durh., M.R.C.S.Eng., "Brightside," Crouch End Hill, London, N. 2.
1910. Downey, Michael Henry, M.B., Ch.B.Melb., L.R.C.P. & S.Edin., L.R.F.P. & S. Glasg., Medical Superintendent, Parkside Asylum, Adelaide, South Australia.
1919. Drake-Brockman, Henry George, M.R.C.S., L.R.C.P.Lond., The Mental Hospital, Middlesbrough.
1916. Drummond, William Blackley, M.B., C.M.Edin., F.R.C.P.Edin., Medical Superintendent, Baldovan Institution, Dundee.
1907. Dryden, A. Mitchell, M.B., Ch.B.Edin., Senior A.M.O., Woodilee Mental Hospital, Lenzie.
1902. Dudgeon, Herbert Wm., M.D., B.S.Durh., M.R.C.S., L.R.C.P.Lond., Medical Superintendent, Khanka Government Asylum, Egypt.
1899. Dudley, Francis, L.R.C.P.&S.I., Senior Assistant Medical Officer, County Asylum, Bodmin, Cornwall.
1915. Duff, Thomas, L.R.C.P. & S.Edin., L.R.F.P.&S.Glasg., Collington Rise, Bexhill-on-Sea.
1917. Dunn, Edwin Lindsay, M.B., B.Ch.Dub., Medical Superintendent, Berks County Asylum, Wallingford, Berks.
1903. Dunston, John Thomas, M.D., B.S.Lond., Medical Superintendent, West Koppies Mental Hospital, Pretoria, South Africa.
1911. Dykes, Percy Armstrong, M.R.C.S., L.R.C.P.Lond., c/o Messrs. Holt and Co., 3, Whitehall Place, London, S.W. 1.
1899. Eades, Albert I., L.R.C.P. & S.I., Medical Superintendent, North Riding Asylum, Clifton, Yorks.
1906. Eager, Richard, O.B.E., M.D., Ch.B.Aber., M.P.C., Assistant Medical Officer, The Devon Mental Hospital, Exminster.
1891. Earls, James Henry, M.D., M.Ch.R.U.I., D.P.H., L.S.A.Lond., M.P.C., Barrister-at-Law, Feustanton, Christchurch Road, Streatham Hill, London, S.W. 2.
1907. East, Wm. Norwood, M.D.Lond., M.R.C.S., L.R.C.P.Lond., M.P.C., H.M. Prison, Manchester; 17, Walton Park, Liverpool.
1895. Easterbrook, Charles C., M.A., M.D., F.R.C.P.Ed., M.P.C., J.P., Physician Superintendent, Crichton Royal Institution, Dumfries.
1914. Eder, M. D., B.Sc.Lond., M.R.C.S., L.R.C.P.Lond. (Medical Officer, Deptford School Clinic), 37, Welbeck Street, London, W. 1.
1895. Edgerley, Samuel, M.A., M.D., C.M.Edin., M.P.C., Medical Superintendent, West Riding Asylum, Menston, nr. Leeds.
1897. Edwards, Francis Henry, M.D.Bru., M.R.C.P.Lond., M.R.C.S.Eng., Medical Superintendent, Camberwell House, London, S.E. 5.
1919. Eggleston, Henry, M.B., B.S.Durh., Allerton Tower Home of Recovery, Woolton, Liverpool.
1901. Elgee, Samuel Charles, O.B.E., L.R.C.P.&S.I., Medical Superintendent, Cane Hill Mental Hospital, Coulsdon, Surrey.
1898. Elkins, Frank Ashby, M.D., C.M.Edin., M.P.C., Medical Superintendent, Metropolitan Asylum, Leavesden, Herts.
1912. Ellerton, John Frederick Heise, M.D.Bru., M.R.C.S.Eng., L.R.C.P. Edin., Rotherwood, Leamington Spa.
1917. Ellis, Vincent C., M.B., B.Ch.Dub., Assistant Medical Officer, Richmond Asylum, Grangegorman, Dublin.
1908. Ellison, Arthur, M.R.C.S., L.R.C.P.Eng., Deputy Medical Officer, H.M. Prison, Leeds; 10, Sholebroke Avenue, Leeds.
1899. Ellison, F. C., B.A., M.D., B.Ch.Dub., Resident Medical Superintendent, District Asylum, Castlebar.
1911. Emslie, Isabella Galloway, M.D., Ch.B.Edin., West House, Royal Asylum, Morningside, Edinburgh.

1911. English, Ada, M.B., B.Ch.R.U.I., Assistant Medical Officer, District Asylum, Ballinasloe.
1901. Erskine, Wm. J. A., M.D., C.M.Edin., Medical Superintendent, County Asylum, Whitecroft, Newport, I. of W.
1895. Eurich, Frederick Wilhelm, M.D., C.M.Edin., 8, Mornington Villas, Maningham Lane, Bradford.
1894. Eustace, Henry Marcus, B.A., M.D., B.Ch.Dubl., M.P.C., Medical Superintendent, Hampstead and Highfield Private Asylum, Glasnevin, Dublin.
1909. Eustace, William Neilson, L.R.C.S. & P.Irel., Lisronagh, Glasnevin, Co. Dublin.
1918. Evans, A. Edward, M.B., B.S.Lond., M.R.C.S., L.R.C.P.Lond., D.P.H. Liverp., Inspector, Board of Control, 3, Rotherwick Court, Golders Green, London, N.W. 4.
1909. Evans, George, M.B.Lond., Senior Assistant Medical Officer, Severalls Asylum, Colchester.
1918. Evans, Tudor Benson, M.B., Ch.B.Liverp., 247, Boundary Street, Liverpool.
1891. Ewan, John Alfred, M.A. St. And., M.D., C.M.Edin., M.P.C., Greylees, Sleaford, Lincs.
1914. Ewing, Cecil Wilmot, L.R.C.P. & S.I. (Second Assistant Medical Officer, Chartham Asylum, near Canterbury), Lord Derby War Hospital, Warrington.
1907. Exley, John, L.R.C.P.I., M.R.C.S.Eng., Medical Officer, H.M. Prison; Grove House, New Wortley, Leeds.
1894. Farquharson, William F., M.D., C.M.Edin., M.P.C., Medical Superintendent, Counties Asylum, Garlands, Carlisle.
1907. Farries, John Stothart, L.R.C.P.&S.Edin., L.R.F.P.&S.Glas., The Cottage, Hethersgill, Carlisle.
1903. Fennell, Charles Henry, M.A., M.D.Oxon, M.R.C.P.Lond., Reform Club, Pall Mall, London, S.W. 1.
1908. Fenton, Henry Felix, M.B., Ch.B.Edin., Assistant Medical Officer, County and City Asylum, Powick, Worcester.
1907. Ferguson, J. J. Harrower, M.B., Ch.B.Edin., Senior Assistant Medical Officer, Fife and Kinross Asylum, Cupar, Fife.
1906. Fielding, Saville James, M.B., B.S.Durh., Medical Superintendent, Bethel Hospital, Norwich.
1873. Finch, John E. M., M.A., M.D.Cantab., M.R.C.S.Eng., L.S.A.Lond., Holmdale, Stonegate, Leicester.
1889. Finlay, David, M.D., C.M.Glasg., Medical Superintendent, County Asylum, Bridgend, Glamorgan.
1906. Firth, Arthur Hareus, M.A., M.D., B.Ch.Edin., Deputy Medical Superintendent, Barnsley Hall, Bromsgrove, Worcestershire.
1903. Fitzgerald, Alexis, L.R.C.P. & S.I., Medical Superintendent, District Asylum, Waterford.
1888. Fitz-Gerald, Gerald C., B.A., M.D., B.C.Cantab., M.P.C., 7, Mermaid Street, Rye, Sussex.
1908. Fitzgerald, James Francis, L.R.C.P.&S.Irel., Assistant Medical Officer, District Asylum, Clonmel, co. Tipperary, Ireland.
1904. Fleming, Wilfrid Louis Remi, M.R.C.S., L.R.C.P.Lond., Suffolk House, Pirbright, Surrey.
1894. Fleury, Eleonora Lilian, M.D., B.Ch.R.U.I., Assistant Medical Officer, Richmond Asylum, Dublin.
1908. Flynn, Thos. Aloysius, L.R.C.P.&S.I., County Asylum, Thorpe, Norwich.
1902. Forde, Michael J., M.D., B.Ch.R.U.I., Assistant Medical Officer, Richmond Asylum, Dublin.
1911. Forrester, Archibald Thomas William, M.D., B.S., M.R.C.S., L.R.C.P.Lond., Senior Assistant Medical Officer, Leicester and Rutland Counties Asylum, Narborough.
1916. Forsyth, Charles Wesley, M.B., M.R.C.S., L.R.C.P.Lond., Assistant Medical Officer, Kesteven County Asylum, Sleaford, Lincs.

1913. Forward, Ernest Lionel, M.R.C.S., L.R.C.P.Lond., Wharnccliffe War Hospital, Sheffield.
1913. Fothergill, Claude Francis, B.A., M.B., B.C.Cantab., M.R.C.S., L.R.C.P. Lond.; Hensol, Chorley Wood, Herts.
1912. Fox, Charles J., M.R.C.S., L.R.C.P.Lond., The Moat House, Alnechurch, Birmingham.
1881. Fraser, Donald, M.D., C.M.Glasg., F.R.F.P. & S.Glas., 13, Royal Terrace West, Glasgow.
1919. Fraser, Kate, B.Sc., M.D., D.P.H., Deputy Commissioner, General Board of Control, Scotland; 13, Royal Terrace West, Glasgow.
1901. French, Louis Alexander, M.R.C.S., L.R.C.P.Lond., "Locksley," Willingdon, Eastbourne.
1902. Fuller, Lawrence Otway, M.R.C.S.Eng., L.R.C.P.Lond., Medical Superintendent, Three Counties' Asylum, Arlesey, Beds.
1914. Gage, John Munro, L.R.C.P.&S.I., M.P.C., Royal Earlswood Institution, Redhill, Surrey.
1906. Gane, Edward Palmer Steward, M.D.Durh., M.R.C.S., L.R.C.P.Lond., The Coppice, Nottingham.
1912. Garry, John William, M.B., B.Ch., N.U.I., Assistant Medical Officer, Ennis District Asylum, Ireland.
1912. Gavin, Lawrence, M.B., Ch.B.Edin., L.R.C.P.&S.Edin., L.R.F.P.&S. Glasg., Superintendent, Mullingar District Asylum, Ireland.
1896. Geddes, John W., M.B., C.M.Edin., Medical Superintendent, Mental Hospital, Middlesbrough, Yorks.
1892. Gemmel, James Francis, M.B.Glasg., Medical Superintendent, County Asylum, Whittingham, Preston.
1919. Gifford, John, B.A., M.B., Ch.B., Senior Assistant Medical Officer, Derby County Asylum, Mickleover.
1899. Gilfillan, Samuel James, M.A., M.B., C.M.Edin., Medical Superintendent, London County Mental Hospital, Colney Hatch, London, N. 11.
1912. Gill, Eustace Stanley Hayes, M.B., Ch.B.Liverp., Shaftesbury House, Formby, Liverpool.
1889. Gill, Stanley A., B.A.Dubl., M.D.Durh., M.R.C.P.Lond., M.R.C.S.Eng., Shaftesbury House, Formby, Liverpool.
1904. Gillespie, Daniel, M.C., M.D., B.Ch.R.U.I., Dipl. Psych., Wadsley Asylum, near Sheffield.
1897. Gilmour, John Rutherford, M.B., C.M., F.R.C.P.Edin., M.P.C., Medical Superintendent, West Riding Asylum, Scalebor Park, Burley-in-Wharfedale, Yorks.
1906. Gilmour, Richard Withers, M.B., B.S.Durh., M.R.C.S., L.R.C.P.Lond., Homewood House, West Meon, Hants.
1878. Glendinning, James, M.D.Glasg., L.R.C.S.Edin. Hill Crest, Lansdown Road, Abergavenny.
1897. Good, Thomas Saxty, M.R.C.S.Eng., L.R.C.P.Lond., Medical Superintendent, County Asylum, Littlemore, Oxford.
1889. Goodall, Edwin, C.B.E., M.D., B.S., F.R.C.P.Lond., M.P.C., Medical Superintendent, City Mental Hospital, Cardiff.
1918. Goodfellow, Thomas Ashton, M.D.Lond., B.Sc., M.R.C.S., L.R.C.P., 60, Palatine Road, West Didsbury, Manchester.
1899. Gordon, James Leslie, M.D., C.M.Aberd. (Medical Superintendent, Fountain Temporary Asylum, Tooting Grove, Tooting Graveney, London, S.W. 17).
1905. Gordon-Munn, John Gordon, M.D.Edin., F.R.S.E., Heigham Hall, Norwich.
1901. Gostwyck, C. H. G., M.B., Ch.B., F.R.C.P.Edin., M.P.C., Dipl. Psych., Stirling District Asylum, Larbert.
1912. Graham, Gilbert Malise, M.B., Ch.B.Edin., R.N., H.M.S. "Emperor of India."
1914. Graham, Norman Bell, M.C., B.A., R.U.I., M.B., B.Ch.Belfast, Assistant Medical Officer, District Asylum, Belfast.

1894. Graham, Samuel, L.R.C.P.Lond., Resident Medical Superintendent, District Asylum, Antrim.
1918. Graham, Samuel John, L.R.C.P., L.R.C.S.Edin., L.R.F.P.S.Glasg., Resident Medical Superintendent, Villa Colony Asylum, Purdysburn, Belfast.
1908. Graham, William S., M.B., B.Ch.R.U.I., Assistant Medical Officer, Somerset and Bath Asylum, near Taunton.
1915. Graves, T. Chivers, M.B., B.S., B.Sc.Lond., F.R.C.S.Eng., Medical Superintendent, The Asylum, Rubery Hill, nr. Birmingham.
1916. Gray, Cyril, L.R.C.P.&S.Edin., Gateshead Borough Asylum, Stannington, Newcastle-on-Tyne.
1909. Greene, Thomas Adrian, L.R.C.S.&P.Irel., J.P., Medical Superintendent, District Asylum, Carlow.
1886. Greenlees, T. Duncan, M.D., C.M.Edin., F.R.S.E., Rostrevor, Kirtleton Avenue, Weymouth.
1912. Greeson, Clarence Edward, M.D., Ch.B.Aberd., c/o Messrs. Holt & Co., 3, Whitehall Place, London, S.W. 1.
1915. Grigsby, Hamilton Marie, L.R.C.P.&S.Edin., 79, Victoria Road North, Southsea.
1901. Grills, Galbraith Hamilton, M.D., B.Ch.R.U.I., Dipl. Psych., Medical Superintendent, County Asylum, Chester.
1916. Grimby, Alan F., B.A., M.A., M.D.Trin.Coll.Dublin, B.Ch., B.A.O., L.M.Rot.Dub. (Assistant Medical Officer, St. Edmondsbury, Lucan, Ireland); R.N. Hospital, Chatham.
1900. Grove, Ernest George, M.R.C.S., L.R.C.P.Lond., Bootham Park, York.
1894. Gwynn, Charles Henry, M.D., C.M.Edin., M.R.C.S.Eng., co-Licencee, St. Mary's House, Whitchurch, Salop.
1894. Halsted, Harold Cecil, M.D.Durh., M.R.C.S., L.R.C.P.Lond., Manor Road, Selsey, Sussex.
1901. Harding, William, C.B.E., M.D.Edin., M.R.C.P.Lond., Medical Superintendent, Northampton County Asylum, Berry Wood, Northampton.
1899. Harmer, W. A., L.S.A., Resident Superintendent and Licensee, Redlands Private Asylum, Tonbridge, Kent.
1904. Harper-Smith, George Hastie, B.A.Cantab., M.R.C.S., L.R.C.P.Lond., (Senior Assistant Medical Officer, Brighton County Borough Asylum, Haywards Heath), May Cottage, Loughton, Essex.
1898. Harris-Liston, L., M.D.Bruce, M.R.C.S., L.R.C.P.Lond., L.S.A., Middleton Hall, Middleton St. George, Co. Durham.
1905. Hart, Bernard, M.D.Lond., M.R.C.S.Eng., 81, Wimpole Street, London, W. 1, and Northumberland House, Finsbury Park, London, N. 4.
1886. Harvey, Bagenal Crosbie, L.R.C.P.&S.Edin., L.A.H.Dubl., Resident Medical Superintendent, District Asylum, Clonmel, Ireland.
1892. Haslett, William John H., M.R.C.S., L.R.C.P.Lond., M.P.C., Resident Medical Superintendent, Halliford House, Sunbury-on-Thames.
1891. Havelock, John G., M.D., C.M.Edin., Cluny, Swanage, Dorset.
1890. Hay, J. F. S., M.B., C.M.Aberd., Inspector-General of Asylums for New Zealand, Government Buildings, Wellington, New Zealand.
1900. Haynes, Horace E., M.R.C.S.Eng., L.S.A., J.P., Littleton Hall, Brentwood, Essex.
1911. Heffernan, P., I.M.S., B.A., M.B., B.Ch.C.U.I.
1916. Henderson, David Kennedy, M.D.Edin., Senior Assistant Physician, Royal Asylum, Gartnavel, Glasgow.
1905. Henderson, George, M.A., M.B., Ch.B.Edin., 25, Commercial Road, Peckham, London, S.E. 15.
1877. Hetherington, Charles E., B.A., M.B., M.Ch.Dubl., Medical Superintendent, District Asylum, Londonderry, Ireland.
1877. Hewson, R. W., L.R.C.P.&S.Edin., Medical Superintendent, Coton Hill, Stafford.
1914. Hewson, R. W. Dale, L.R.C.P.&S.Edin., L.R.F.P.&S.Glasg., Coton Hill Hospital, Stafford.

1912. Higson, William Davis, M.B., Ch.B.Liverp., D.P.H., Deputy Medical Officer, H.M. Prison, Brixton; 7, Clovelly Gardens, Upper Tulse Hill, London, S.W. 2.
1882. Hill, H. Gardiner, M.R.C.S.Eng., L.S.A., Pentillie, Leopold Road, Wimbledon Park, London, S.W. 19.
1914. Hills, Harold William, B.S., M.B., B.Sc.Lond., M.R.C.S., L.R.C.P.Lond.; Lord Derby War Hospital, Warrington.
1907. Hine, T. Guy Macaulay, M.A., M.D., B.C.Cantab., 37, Hertford Street, Mayfair, London, W. 1.
1909. Hodgson, Harold West, M.R.C.S., L.R.C.P.Lond., Assistant Medical Officer, Severalls Asylum, Colchester.
1908. Hogg, Archibald, M.B., Ch.B.Glas., 54, High Street, Paisley, N.B.
1900. Holländer, Bernard, M.D.Freib., M.R.C.S., L.R.C.P.Lond., 57, Wimpole Street, London, W. 1.
1903. Hopkins, Charles Leighton, B.A., M.B., B.C.Cantab., Medical Superintendent, York City Asylum, Fulford, York.
1918. Horton, Wilfred Winnall, M.D.Edin., Medical Superintendent, Wye House, Buxton.
1894. Hotchkis, Robert D., M.A.Glasg., M.D., B.S.Durh., M.R.C.S., L.R.C.P.Lond., M.P.C., Renfrew District Asylum, Dykebar, Paisley, N.B.
1912. Hughes, Frank Percival, M.B., B.S.Lond., M.R.C.S., L.R.C.P.Lond., The Grove, Pinner, Middlesex.
1900. Hughes, Percy T., M.B., C.M.Edin., D.P.H., Medical Superintendent, Worcestershire County Asylum, Barnesley Hall, Bromsgrove.
1904. Hughes, William Stanley, M.B., B.S.Lond., M.R.C.S., L.R.C.P.Lond., Medical Superintendent, Shropshire County Asylum, Bicton Heath, Shrewsbury.
1897. Hunter, David, M.A., M.B., B.C.Cantab., L.S.A., Medical Superintendent, The Coppice, Nottingham. (*Secretary for S.E. Division, 1910-1913.*)
1909. Hunter, Douglas William, M.B., Ch.B.Glasg., Assistant Medical Officer, 10, Hallfield Road, Bradford.
1912. Hunter, George Yeates Cobb, *I.M.S.*, M.R.C.S., L.R.C.P.Lond., M.P.C., c/o Messrs. Grindlay & Co., 54, Parliament Street, London, S.W. 1.
1904. Hunter, Percy Douglas, M.R.C.S., L.R.C.P.Lond., Three Counties Asylum, Arlesey, Beds.
1888. Hyslop, Theo. B., M.D., C.M.Edin., M.R.C.P.E., L.R.C.S.E., F.R.S.E., M.P.C., 5, Portland Place, London, W. 1.
1915. Ingall, Frank Ernest, F.R.C.S.Eng., L.R.C.P.Lond., D.P.H., Tue Brook Villa, Liverpool.
1908. Inglis, J. P. Park, M.B., Ch.B.Edin., Assistant Medical Officer, Caterham Asylum, Caterham, Surrey.
1906. Irwin, Peter Joseph, L.R.C.P.&S.I., Assistant Medical Officer, District Asylum, Limerick.
1914. James, George William Blomfield, M.B., B.S.Lond., The Lawn, Hillingdon, Uxbridge.
1908. Jeffrey, Geo. Rutherford, M.D., Ch.B.Glas., F.R.C.P.E., M.P.C., Medical Superintendent, Bootham Park, York.
1893. Johnston, Gerald Herbert, L.R.C.P.&S.Edin., L.R.F.P.&S.Glas., Brooke House, Upper Clapton, London, N. 5.
1919. Johnston, Millicent Hamilton, B.A., M.B., B.Ch.Dub., Assistant Medical Officer, Brentwood Mental Hospital, Essex.
1905. Johnston, Thomas Leonard, L.R.C.P.&S.Edin., L.R.F.P.&S.Glas., Medical Superintendent, Bracebridge Asylum, Lincoln.
1912. Johnstone, Emma May, L.R.C.P. & S.Edin., L.R.F.P.&S.Glas., M.P.C., Dipl. Psych., Holloway Sanatorium, Virginia Water, Surrey.
1878. Johnstone, J. Carlyle, M.D., C.M.Glas., Melrose, Roxburgh.
1903. Johnstone, Thomas, M.D., C.M.Edin., M.R.C.P.Lond., Annandale, Harrogate.
1880. Jones, D. Johnston, M.D., C.M.Edin.

1879. Kay, Walter S., M.D., C.M.Edin., M.R.C.S.Eng., The Grove, Starbech, Harrogate.
1886. Keay, John, C.B.E., M.D., C.M.Glasg., F.R.C.P.Edin., Medical Superintendent, Bangour Village, Uphall, Linlithgowshire. (PRESIDENT, 1918.)
1909. Keith, William Brooks, M.B., Ch.B.Aberd., M.P.C., 81st Field Ambulance, 27th Division.
1908. Kelly, Richard, M.D., B.Ch.Dub., Assistant Medical Officer, Storthes Hall Asylum, Kirkburton, near Huddersfield.
1907. Keene, George Henry, M.D., 14, Palmerston Park, Dublin.
1899. Kennedy, Hugh T. J., L.R.C.P.&S.I., Assistant Medical Officer, District Asylum, Enniscorthy, Co. Wexford.
1897. Kerr, Hugh, M.A., M.D.Glasg., Medical Superintendent, Bucks County Asylum, Stone, Aylesbury, Bucks.
1902. Kerr, Neil Thomson, M.B., C.M.Ed., Medical Superintendent, Lanark District Asylum, Hartwood, Shotts, N.B.
1893. Kershaw, Herbert Warren, M.R.C.S.Eng., L.R.C.P.Lond., 1, Stanhope Road, Darlington.
1897. Kidd, Harold Andrew, C.B.E., M.R.C.S.Eng., L.R.C.P.Lond., Medical Superintendent, West Sussex Mental Hospital, Chichester.
1916. Kilgarraff, Joseph O'Loughlin, A.B., M.B., B.Ch., B.A.O.Univ., Dublin, Assistant Medical Officer, County Asylum, Prestwich, Lancs.
1903. King, Frank Raymond, B.A.Cantab., M.R.C.S.Eng., L.R.C.P.Lond., Medical Superintendent, Peckham House, Peckham, London, S.E.
1902. King-Turner, A. C., M.B., C.M.Edin., The Retreat, Fairford, Gloucestershire.
1915. Kirwan, Richard R., M.B., B.Ch. R.U.I., Assistant Medical Officer, West Riding Asylum, Menston, Leeds.
1915. Kitson, Frederick Hubert, M.B., Ch.B.Leeds, Assistant Medical Officer, West Riding Asylum, Wakefield.
1919. Knight, Mary Reid, M.A., M.B., Ch.B., Assistant Medical Officer, Paisley District Asylum, Riccarton, Paisley, Scotland.
1903. Kough, Edward Fitzadam, B.A., M.B., B.Ch.Dubl., Senior Assistant Medical Officer, County Asylum, Gloucester.
1898. Labey, Julius, M.R.C.S., L.R.C.P., L.S.A.Lond., Medical Superintendent, Public Asylum, Jersey.
1902. Langdon-Down, Percival L., M.A., M.B., B.C.Cantab., Normansfield, Hampton Wick, Middlesex.
1896. Langdon-Down, Reginald L., M.A., M.B., B.C.Cantab., M.R.C.P.Lond., Normansfield, Hampton Wick.
1919. Langton, Peregrine Stephen Brackenbury, M.R.C.S.Eng., L.R.C.P.Lond., M.B., B.S.Lond., Assistant Medical Officer, York City Asylum, Fulford, York.
1914. Ladell, R. G. Macdonald, M.B., Ch.B.Vict., The Gables, Killinghall, Harrogate.
1919. Latham, Oliver, M.B., C.M.Sydney University, Pathologist, Lunacy Department, Sydney, N.S.W. *Permanent Address:* Sydney University, N.S.W.; *Temporary Address:* No. 1, Australian Hospital, Sutton Verney, Warminster.
1909. Laurie, James, M.B., Ch.M.Glasg. (*Visiting Medical Officer, Asylum and Poorhouse, Greenock, Smithson*), Red House, Ardgowan Street, Greenock, Renfrewshire.
1902. Laval, Evariste, M.B., C.M.Edin., The Guildhall, Westminster, London, S.W. 1.
1898. Lavers, Norman, M.D.Bruce, M.R.C.S., L.R.C.P.Lond. (Medical Superintendent, Bailbrook House, Bath); Red Cross Military Hospital, Moss Side, Maghull, near Liverpool.

1892. Lawless, George Robert, F.R.C.S.I., L.R.C.P.I., Medical Superintendent, District Asylum, Armagh.
1870. Lawrence, Alexander, M.A., M.D., C.M.Aberd., 26, Hough Green, Chester.
1883. Layton, Henry A., M.R.C.S.Eng., L.R.C.P.Edin., 26, Kimbolton Road, Bedford.
1915. Leech, H. Brougham, M.D., B.Ch.Dub., Assistant Medical Officer, County Asylum, Hatton, Warwick.
1909. Leech, John Frederick Wolseley, M.D., B.Ch.Dub., Assistant Medical Officer, County Asylum, Devizes, Wilts.
1899. Leeper, Richard R., F.R.C.S.I., L.R.C.P.I., M.P.C., Medical Superintendent, St. Patrick's Hospital, Dublin. (*Hon. Sec. to the Irish Division since 1911.*)
1883. Legge, Richard J., M.D., R.U.I., L.R.C.S.Edin., "Comeragh," Leckhampton Road, Cheltenham.
1906. Leggett, William, B.A., M.D., B.Ch.Dubl., Assistant Medical Officer, Royal Asylum, Sunnyside, Montrose).
1916. Lewis, Edward, L.R.C.P. & S.Edin., L.F.P. & S.Glasg., Cwirlai, Ty-Cross, Anglesey.
1914. Lindsay, David George, L.R.C.P.&S.Edin., Senior Assistant Medical Officer, Dundee District Asylum, West Green, Dundee.
1908. Littlejohn, Edward Salteine, M.R.C.S., L.R.C.P.Lond., Medical Superintendent, Manor Mental Hospital, Epsom.
1898. Lord, Lt.-Col. John R., C.B.E., M.B., C.M.Edin., Medical Superintendent, Horton Mental Hospital, Epsom. (*Co-Editor of Journal since 1911; Assistant Editor of Journal, 1900-11.*)
1906. Lowry, James Arthur, M.D., B.Ch., R.U.I., Medical Superintendent, Surrey County Asylum, Brookwood.
1904. Lyall, C. H. Gibson, L.R.C.P.&S.Edin., Leicester Borough Asylum, Leicester.
1872. Lyle, Thomas, M.D., C.M.Glasg., 34, Jesmond Road, Newcastle-on-Tyne.
1906. Macarthur, John, M.R.C.S., L.R.C.P.Lond., Assistant Medical Officer, Colney Hatch Mental Hospital, London, N. 11.
1880. MacBryan, Henry C., L.R.C.P. & S. Edin., Kingsdown House, Box, Wilts.
1900. McClintock, John, L.R.C.P.&S.Edin., Resident Medical Superintendent, Grove House, All Stretton, Church Stretton, Salop.
1901. MacDonald, James H., M.B., Ch.B., F.R.F.P.&S.Glasg., Govan District Asylum, Hawkhead, Paisley, N.B.
1884. MacDonald, P. W., M.D., C.M.Aberd., Grasmere, Spa Road, Weymouth. (*First Hon. Sec. S.W. Div. 1894 to 1905.*) (PRESIDENT, 1907-8.)
1911. MacDonald, Ranald, M.D., Ch.B.Edin., London County Mental Hospital, Bexley, Kent.
1905. MacDonald, William Fraser, M.B., Ch.B.Edin., M.P.C., 96, Polworth Terrace, Edinburgh.
1905. McDougall, Alan, M.D., Ch.B.Vict., M.R.C.S., L.R.C.P.Lond., Medical Director, The David Lewis Colony, Sandle Bridge, near Alderley Edge, Cheshire.
1911. McDougall, William, M.A., M.B., B.C.Cantab., M.Sc.Vict., 89, Banbury Road, Oxford.
1906. McDowall, Colin Francis Frederick, M.D., B.S.Durh., Medical Superintendent, Ticehurst House, Ticehurst, Sussex.
1870. McDowall, Thomas W., M.D.Edin., L.R.C.S.E., "Burwood," Wadhurst, Sussex. (PRESIDENT, 1897-8.)
1895. Macfarlane, Neil M., M.D., C.M.Aber., Medical Superintendent, Government Hospital, Thlotse Heights, Leribe, Basutoland, South Africa.
1902. McGregor, John, M.B., Ch.B.Edin., Senior Assistant Medical Officer, County Asylum, Bridgend, Glam.
1917. McIver, Colin, M.R.C.S., L.R.C.P., I.M.S., c/o Messrs. Grindlay & Co., Bombay, India.

1914. Mackay, Magnus Ross, M.D., Ch.B.Edin., Newport Borough Asylum, Caerleon, Mon.
1917. Mackay, Norman Douglas, M.D., Ch.B., B.Sc., D.P.H.St. And., Dall-Avon, Aberfeldy, Perthshire.
1915. McKenna, Edward Joseph, M.B., B.Ch., R.U.I., Assistant Medical Officer, Carlow District Asylum.
1911. Mackenzie, John Cosserat, M.B., Ch.B.Edin., County Mental Hospital, Burntwood, near Lichfield.
1891. Mackenzie, Henry J., M.B., C.M.Edin., M.P.C., Assistant Medical Officer, The Retreat, York.
1903. Mackenzie, Theodore Charles, M.D., Ch.B., F.R.C.P.Edin., M.P.C., Medical Superintendent, District Asylum, Inverness.
1917. McMaster, Albert Victor, B.A., M.R.C.S.Eng., "The Mount," Hills Road, Cambridge.
1904. Macnamara, Eric Danvers, M.A.Camb., M.D., B.C., F.R.C.P.Lond., 87, Harley Street, London, W. 1.
1914. Macneill, Celia Mary Colquhoun, M.B., Ch.B.Edin. (Pathologist, Northfield, Prestonpans); Leith War Hospital, Seafield, Leith.
1910. MacPhail, Hector Duncan, M.A., M.D., Ch.B.Edin. (Assistant Medical Officer, City Asylum, Gosforth, Newcastle-on-Tyne.
1882. Macphail, S. Rutherford, M.D., C.M.Edin., Derby Borough Asylum, Rowditch, Derby.
1901. McRae, G. Douglas, M.D., C.M.Edin., F.R.C.P.Ed., Medical Superintendent, District Asylum, Ayr, N.B. (*Co-Editor of the Journal since 1920; Assistant Editor 1916-20*).
1902. Macrae, Kenneth Duncan Cameron, M.B., Ch.B.Edin. (Bangour Village, Dechmont, Linlithgowshire); M.E.F.
1894. McWilliam, Alexander, M.A., M.B., C.M.Aber., Waterval, Odiham, Winchfield, Hants.
1915. Manifold, Robert Fenton, M.B., D.Ch.Dub., Senior Assistant Medical Officer, Denbigh Asylum, North Wales.
1908. Mapother, Edward, M.D., B.S.Lond., F.R.C.S.Eng., Maudsley Hospital, Denmark Hill, S.E.5.
1903. Marnan, John, B.A., M.B., B.Ch.Dubl., Medical Superintendent, County Asylum, Gloucester.
1896. Marr, Hamilton C., M.D., C.M., F.R.F.P.&S.Glasg., M.P.C., Commissioner in Lunacy (10, Succoth Avenue, Edinburgh). (*Hon. Sec. Scottish Division, 1907-1910*).
1913. Marshall, Robert, M.B., Ch.B.Glas. (Assistant Medical Officer, Gartloch Mental Hospital, Gartcosh, N.B.); 19th General Hospital, British Expeditionary Force.
1905. Marshall, Robert Macnab, M.D., Ch.B.Glasg., M.P.C., 2, Clifton Place, Glasgow.
1908. Martin, Henry Cooke, M.B., Ch.B.Edin., Assistant Medical Officer, Newport Borough Asylum, Caerleon.
1896. Martin, James Charles, L.R.C.S. & P.I., J.P., Assistant Medical Officer, District Asylum, Letterkenny, Donegal.
1908. Martin, James Ernest, M.B., B.S.Lond., M.R.C.S., L.R.C.P.Lond. Assistant Medical Officer, Long Grove Mental Hospital, Epsom, Surrey.
1907. Martin, Mary Edith, L.R.C.P.&S.Edin., L.R.F.P.&S.Glas., L.S.A.Lond., M.P.C.Lond., Bailbrook House, Bath.
1914. Martin, Samuel Edgar, M.B., B.Ch.Edin., Barrister-at-Law (Senior Assistant Medical Officer, St. Andrew's Hospital, Northampton); British Mediterranean Expeditionary Force.
1911. Martin, William Lewis, M.A., M.B., C.M., B.Sc., D.P.H.Edin., M.P.C., Dipl. Psych. (*Certifying Physician in Lunacy, Edinburgh Parish Council*), 56, Bruntsfield Place, Edinburgh.
1911. Mathieson, James Moir, M.B., Ch.B.Aber., Assistant Medical Officer, Wadsley Asylum, Sheffield; 172, Whitham Road, Broomhill, Sheffield.
1904. May, George Francis, M.D., C.M.McGill, L.S.A., Winterton Asylum, Ferryhill, Durham.

1912. Melville, William Spence, M.B., Ch.B.Glas., Woodilee Mental Hospital, Lenzie, Glasgow.
1890. Menzies, William F., M.D., B.Sc.Edin., M.R.C.P.Lond., Medical Superintendent, Stafford County Asylum, Cheddleton, near Leek. (PRESIDENT-ELECT.)
1877. Merson, John, M.A., M.D., C.M.Aber., Medical Superintendent, Borough Asylum, Hull.
1893. Middlemass, James, M.A., M.D., C.M., B.Sc.Edin., F.R.C.P., M.P.C., Medical Superintendent, Borough Asylum, Ryhope, Sunderland.
1910. Middlemiss, James Ernest, M.R.C.S.Eng., L.R.C.P.Lond.; 131, North Street, Leeds.
1883. Miles, George E., M.R.C.S., L.R.C.P.Lond., D Block, Royal Victoria Hospital, Netley, Hauts; British Empire Club, St. James' Square, London, S.W. 1.
1887. Miller, Alfred, M.B., B.Ch.Dubl., Medical Superintendent, Hatton Asylum, Warwick. (*Registrar since 1902.*)
1912. Miller, Richard, M.B., B.Ch.Dubl., Stock, Ingatestone.
1893. Mills, John, M.B., B.Ch., Dipl. Ment. Dis., R.U.I., Medical Superintendent, District Asylum, Ballinasloe, Ireland.
1911. Moll, Jan. Marius, Doc. in Arts and Med, Utrecht Univ., L.M.S.S.A. Lond., M.P.C., Box 2587, Johannesburg, South Africa.
1913. Molyneux, Benjamin Arthur, B.A., M.D., B.Ch.Dubl., St. Helens House, St. Helens, Hastings.
1910. Monnington, Richard Caldicott, M.D., Ch.B., D.P.H.Edin. (Darent Industrial Colony, Dartford, Kent); c/o Rev. T. P. Monnington, Lowick Green, Ulverston, Lancs.
1915. Monrad-Krohn, G. H., M.D., B.S., B.A.Christiania, M.R.C.S.Eng., M.R.C.P.Lond., M.P.C., Lecturer in Neurology at the University and Physician to the Neurological Section of Rikshospitalet, Christiania.
1914. Montgomery, Edwin, F.R.C.S.I., L.R.C.P.I. Dipl. Psych. Manch., 1, Tewkesbury Drive, Sedgely Park, Manchester.
1899. Moore, Wm. D., M.D., M.Ch.R.U.I., Medical Superintendent, Holloway Sanatorium, Virginia Water, Surrey.
1914. Morres, Frederick, M.R.C.S.Eng., L.R.C.P.Lond. (Assistant Medical Officer, Cane Hill Mental Hospital, Coulsdon, Surrey.
1917. Morris, Bedlington Howel, M.B., B.S.Durh., Inspector-General of Hospitals, South Australia; Pembroke Street, College Park, St. Peter's, S. Australia.
1896. Morton, W. B., M.D.Lond., M.R.C.S., L.R.C.P.Lond., Medical Superintendent, Wonford House, Exeter.
1896. Mott, Sir Frederick W., *K.B.E.*, M.D., B.S., F.R.C.P.Lond., LL.D.Edin., F.R.S., 25, Nottingham Place, Marylebone, London, W. 1.
1896. Mould, Gilbert E., M.R.C.S., L.R.C.P.Lond., The Grange, Rotherham, Yorks.
1897. Mould, Philip G., M.R.C.S.Eng., L.R.C.P.Lond., Overdale, Whitefield, Manchester.
1914. Moyes, John Murray, M.B., Ch.B.Edin., D.P.M.Leeds, Tue Brook Villa, Liverpool, E.
1919. Mules, Annie Shortridge, M.R.C.S., L.R.C.P., Assistant House-Surgeon, Devon and Exeter Hospital; Court Hall, Kenton, near Exeter.
1907. Mules, Bertha Mary, M.D., B.S.Durh., Court Hall, Kenton, S. Devon.
1911. Muncaster, Anna Lilian, M.B., B.Ch.Edin. (County Asylum, Chester); home address, 8, Craylockhail Terrace, Edinburgh.
1917. Munro, Robert, M.B., Ch.B.Aberd., Assistant Medical Officer, Dorset County Asylum, Dorchester.
1919. Murnane, John, L.R.C.P.I. & S.I. & L.M., Assistant Medical Officer, Ballinsloe Asylum, Ireland.
1916. Murray, Jessie M., M.B., B.S.Durham, 14, Endsleigh Street, Tavistock Square, London, W.C. 1.
1909. Myers, Charles Samuel, M.A., D.Sc., M.D., B.C.Cantab., M.R.C.S., L.R.C.P.Lond., 30, Montague Square, W. 1.

1903. Navarra, Norman, M.R.C.S., L.R.C.P.Lond., City of London Mental Hospital, near Dartford, Kent.
1910. Neill, Alexander W., M.D., Ch.B.Edin., Warneford Mental Hospital, Oxford.
1903. Nelis, William F., M.D.Durh., L.R.C.P.Edin., L.R.F.P.&S.Glasg., Medical Superintendent, Newport Borough Asylum, Caerleon, Mon.
1869. Nicolson, David, C.B., M.D., C.M.Aber., M.R.C.P.Edin., F.S.A.Scot., 201, Royal Courts of Justice, Strand, London, W.C. 2. (PRESIDENT, 1895-6.)
1888. Nolan, Michael J., L.R.C.P.&S.I., M.P.C., Medical Superintendent, District Asylum, Downpatrick.
1913. Nolan, James Noël Green, M.B., B.Ch., A.B.Dub., The Hospital, Helmingly Asylum, Sussex.
1909. Norman, Hubert James, M.B., Ch.B., D.P.H.Edin., Assistant Medical Officer, Camberwell House Asylum, Peckham Road, London, S.E. 5. (Home address: 51, Crystal Palace Park Road, Sydenham, London, S.E. 26.)
1916. O'Carroll, Joseph, M.D., F.R.C.P., Physician Richmond and Whitworth Hospitals; Lord Chancellor's Medical Visitor in Lunacy; 43, Merrion Square, Dublin.
1903. O'Doherty, Patrick, B.A., M.B., B.Ch.R.U.I., District Asylum, Omagh.
1918. Ogilvie, William Mitchell, M.B., C.M.Aberd., Medical Superintendent, Ipswich Mental Hospital, Ipswich.
1901. Ogilvy, David, B.A., M.D., B.Ch.Dub., Medical Superintendent, London County Mental Hospital, Long Grove, Epsom, Surrey.
1911. Oliver, Norman H., M.R.C.S., L.R.C.P.Lond., Barrister-at-Law, Officer in Charge, No. 4 Special Hospital for Officers, Latchmere, Ham Common, Surrey.
1892. O'Mara, Francis, L.R.C.P.&S.I., District Asylum, Ennis, Ireland.
1902. Orr, David, M.D., C.M.Edin., M.P.C., Pathologist, County Asylum, Prestwich, Lancs.
1910. Orr, James H. C., M.D., Ch.B.Edin., Rosslynlee Asylum, Midlothian.
1899. Osburne, Cecil A. P., F.R.C.S., L.R.C.P.Edin., The Grove, Old Catton, Norwich.
1914. Osburne, John C., M.B., B.Ch.Dubl., Assistant Medical Officer, Lindville, Cork.
1890. Oswald, Landel R., M.B., C.M.Glasg., M.P.C., Physician Superintendent, Royal Asylum, Gartnavel, Glasgow.
1916. Overbeck-Wright, Alexander William, M.D., Ch.B., M.P.C., D.P.H., Superintendent, Lunatic Asylum, Agra, U. P., India (at present on military duty); Lecturer on Mental Diseases, King George's Hospital, Lucknow, and Agra Medical School, Agra. Address 12, Rubislaw Terrace, Aberdeen.
1905. Paine, Frederick, M.D.Bru., M.R.C.S.Eng., M.R.C.P.Lond., Claybury Mental Hospital, Woodford Bridge, Essex.
1898. Parker, William Arnot, M.B., C.M.Glasg., M.P.C., Medical Superintendent, Gartloch Asylum, Gartcosh, N.B.
1898. Pasmore, Edwin Stephen, M.D., M.R.C.P.Lond., Chelsham House, Chelsham, Surrey.
1916. Patch, Charles James Lodge, L.R.C.P.&S.Edin., Assistant Medical Officer, Renfrew District Asylum, Dykebar, Paisley.
1899. Patrick, John, M.B., Ch.B., R.U.I., Medical Superintendent, Tyrone Asylum, Omagh, Ireland.
1907. Peachell, George Ernest, M.D., B.S.Lond., M.R.C.S., L.R.C.P.Lond., M.P.C., Medical Superintendent, Dorset County Asylum, Herrison, Dorchester.
1910. Pearn, Oscar Phillips Napier, M.R.C.S., L.R.C.P., L.S.A.Lond., Mental Hospital, Banstead, Surrey.

1915. Pennant, Dyfrig Huws, D.S.O., M.R.C.S., L.R.C.P.Lond., Barnwood House, Gloucester.
1913. Penny, Robert Augustus Greenwood, M.R.C.S., L.R.C.P.Lond., Devon County Asylum, Exminster.
1893. Perceval, Frank, M.R.C.S., L.R.C.P.Lond., Medical Superintendent, County Asylum, Prestwich, Manchester, Lancashire.
1911. Petrie, Alfred Alexander Webster, M.D., B.S.Lond., Ch.B., F.R.C.S. Edin., Assistant Medical Officer, Epileptic Colony, Epsom.
1878. Philipps, Sutherland Rees, M.D., C.M.Q.U.I., F.R.G.S., Bredon, Fisher Street, Paignton.
1908. Phillips, John George Porter, M.D., B.S.Lond., M.R.C.S., M.R.C.P.Lond., M.P.C., Resident Physician and Superintendent, Bethlem Royal Hospital, Lambeth, London, S.E. 1.
1910. Phillips, John Robert Parry, M.R.C.S., L.R.C.P.Lond., Assistant Medical Officer, City Asylum, Bristol.
1906. Phillips, Nathaniel Richard, M.D.Brux., M.R.C.S., L.R.C.P.Lond., Assistant Medical Officer, County Asylum, Abergavenny, Monmouthshire.
1905. Phillips, Norman Routh, M.D.Brux., M.R.C.S., L.R.C.P.Lond., 67, Billing Road, Northampton.
1891. Pierce, Bedford, M.D., F.R.C.P.Lond., Medical Superintendent, The Retreat, York. (*Hon. Secretary N. and M. Division 1900-8.*) (PRESIDENT.)
1888. Pietersen, J. F. G., M.R.C.S., L.R.C.P.Lond., Ashwood House, Kingswinford, near Dudley, Stafford.
1896. Planck, Charles, M.A.Camb., M.R.C.S., L.R.C.P.Lond., Medical Superintendent, Brighton County and Borough Asylum, Haywards Heath.
1912. Plummer, Edgar Curnow, M.R.C.S., L.R.C.P.Lond. (Medical Superintendent, Laverstock House, Salisbury); British Expeditionary Force.
1889. Pope, George Stevens, L.R.C.P.&S.Edin., L.R.F.P.&S.Glasg., Heigham Hall, Norwich.
1913. Potts, William A., M.A.Camb., M.D.Edin.&Birm., M.R.C.S., L.R.C.P.Lond., *Medical Officer to the Birmingham Committee for the Care of the Feeble-minded*, 118, Hagley Road, Birmingham.
1876. Powell, Evan, M.R.C.S.Eng., L.S.A., Medical Superintendent, City Lunatic Asylum, Nottingham.
1910. Powell, James Farquharson, M.R.C.S., L.R.C.P., D.P.H.Lond., M.P.C., Assistant Medical Officer, The Asylum, Caterham, Surrey.
1916. Power, Patrick William, L.R.C.P., L.R.C.S., Senior Assistant Medical Officer, County Asylum, Chester.
1908. Prentice, Reginald Wickham, L.M.S.S.A.Lond., Beauworth Manor, Alresford, Hants.
1918. Prideaux, John Joseph Francis Engledue, M.R.C.S., L.R.C.P.Lond., Resident Medical Officer, Graylingwell War Hospital, Chichester.
1901. Pugh, Robert, M.D., Ch.B.Edin., Medical Superintendent, Brecon and Radnor Asylum, Talgarth, S. Wales.
1904. Race, John Percy, M.R.C.S., L.R.C.P., L.S.A.Lond., Journals and notices to Winterton Asylum, Ferryhill, Durham (Wheatley Hill, Doncaster).
1899. Rainsford, F. E., M.D., B.A.Dubl., L.R.C.P.I., L.R.C.P.&S.E., Resident Physician, Stewart Institute, Palmerston, co. Dublin.
1894. Rambaut, Daniel F., M.A., M.D., B.Ch.Dub., Medical Superintendent, St. Andrew's Hospital, Northampton.
1910. Rankine, Surg. Roger Aiken, R.N., M.B., B.S., M.R.C.S., L.R.C.P.Lond., M.P.C.
1889. Raw, Nathan, C.M.G., M.P., M.D., B.S.Durh., L.S.Sc., F.R.C.S.Edin., M.R.C.P.Lond., M.P.C., 58, Harley Street, W. 1.
1870. Rayner, Henry, M.D.Aberd., M.R.C.P.Edin., Upper Terrace House, Hampstead, London, N.W. 3. (PRESIDENT, 1884.) (*General Secretary*, 1877-89.) (*Co-Editor of Journal* 1895-1911.)

1913. Read, Charles Stanford, M.D.Lond., M.R.C.S., L.R.C.P.Lond., Assistant Medical Officer, Fisherton House, Salisbury.
1903. Read, George F., L.R.C.S.&P.Edin., Hospital for the Insane, New Norfolk, Tasmania.
1899. Redington, John, F.R.C.S.&L.R.C.P.I., Portrane Asylum, Donabate, Co. Dublin.
1911. Reeve, Ernest Frederick, M.B., B.S.Lond., M.R.C.S., L.R.C.P.Lond., Senior Assistant Medical Officer, County Asylum, Rainhill, Lancs.
1911. Reid, Daniel McKinley, M.D., Ch.B.Glasg., Hawkhead Mental Hospital, Cardonald, Glasgow.
1910. Reid, William, M.A.St. And., M.B., Ch.B.Edin., Senior Assistant Medical Officer, Burntwood Asylum, Lichfield.
1886. Revington, George T., M.A., M.D., B.Ch.Dubl., M.P.C., Medical Superintendent, Central Criminal Asylum, Dundrum, Ireland.
1899. Rice, David, M.D.Bru., M.R.C.S., L.R.C.P.Lond., D.P.H., Medical Superintendent, City Asylum, Hillesdon, Norwich.
1897. Richard, William J., M.A., M.B., Ch.M.Glasg., Merryflats, Govan, Glasgow.
1899. Richards, John, M.B., C.M.Edin., F.R.C.S.E., Medical Superintendent, Joint Counties Asylum, Carmarthen.
1911. Roberts, Henry Howard, M.D., Ch.B.Edin., D.P.H.Glasg., Ennerdale, Haddington, Scotland.
1914. Roberts, Ernest Theophilus, M.D., C.M.Edin., D.P.H.Camb., M.P.C., Hawkstone, 58, South Brae Drive, Jordanhill, Glasgow.
1903. Roberts, Norcliffe, O.B.E., M.D., B.S.Durh., Senior Assistant Medical Officer, Horton Mental Hospital, Epsom, Surrey.
1887. Robertson, Geo. M., M.D., C.M., F.R.C.P.Edin., M.P.C., Physician-Superintendent, Royal Asylum, Morningside, Edinburgh.
1908. Robertson, George Dunlop, L.R.C.S.&P.Edin., Dipl. Psych., Assistant Medical Officer, District Asylum, Hartwood, Lanark.
1916. Robertson, Jane I., M.B., Ch.B.Glasg., Dogleap, Limavady, Co. Derry.
1895. Robertson, William Ford, M.D., C.M.Edin., 60, Northumberland Street, Edinburgh.
1900. Robinson, Harry A., M.D., Ch.B.Vict., 140, Edge Lane, Liverpool.
1911. Robson, Capt. Hubert Alan Hirst, M.R.C.S., L.R.C.P.Lond., Punjab Asylum, India.
1914. Rodger, Murdoch Mann, M.D., Ch.B.Glas., The Rowans, Bothwell, Scotland.
1908. Rodgers, Frederick Millar, M.D., Ch.B.Vict., D.P.H., Senior Medical Officer, County Asylum, Winwick, Lancs.
1908. Rolleston, Charles Frank, B.A., M.B., Ch.B.Dub., Assistant Medical Officer, County of London Manor Mental Hospital, Epsom.
1895. Rolleston, Lancelot W., C.B.E., M.B., B.S.Durh. (Medical Superintendent, Middlesex County Asylum); Napsbury Mental Hospital, Napsbury, near St. Albans.
1888. Ross, Chisholm, M.D.Syd., M.B., C.M.Edin., 151, Macquarie Street, Sydney, New South Wales.
1918. Ross, Dermid Maxwell, M.B., Ch.B.Edin., Physician-Superintendent, James Murray's Royal Asylum, Perth.
1910. Ross, Donald, M.B., Ch.B.Edin., Argyll and Bute Asylum, Lochgilphead.
1899. Rotherham, Arthur, M.A., M.B., B.C.Cantab., Commissioner under Ment. Defec. Act, Board of Control, 66, Victoria Street, Westminster, London, S.W. 1.
1906. Rowan, Marriott Logan, B.A., M.D.R.U.I., Medical Superintendent, Derby County Asylum, Mickleover.
1883. Rowland, E. D., M.B., C.M.Edin., 71, Main Street, George Town, Demerara, British Guiana.
1902. Rows, Richard Gundry, C.B.E., M.D.Lond., M.R.C.S., L.R.C.P.Lond. (Pathologist, County Asylum, Lancaster), Tooting Neurological Hospital, Church Lane, Tooting, S.W.

1877. Russell, Arthur P., M.B., C.M., M.R.C.P.Edin., The Lawn, Lincoln.
 1912. Russell, John Ivison, M.B., Ch.B.Glasg., Jeanfield, 18, Woodend Drive, Jordan Hill, Glasgow.
 1915. Russell, William, M.B., Ch.B.Edin., Dip.Psych.Edin., D.T.M.Edin., Assistant Physician, Pretoria Mental Hospital, S. Africa.
 1912. Rutherford, Cecil, M.B., B.Ch.Dubl., Assistant Medical Officer, Holloway Sanatorium, Virginia Water, Surrey.
 1907. Rutherford, Henry Richard Charles, F.R.C.S.I., L.R.C.P.I., D.P.H., St. Patrick's Hospital, James's St., Dublin.
 1896. Rutherford, James Mair, M.B., C.M., F.R.C.P.Edin., M.P.C., Brislington House, Bristol.
 1913. Ryan, Ernest Noel, B.A., M.D., B.Ch.Dub., 6th London Field Ambulance (T.).
1902. Sall, Ernest Frederick, M.R.C.S., L.R.C.P.Lond., Medical Superintendent, Borough Asylum, Canterbury.
 1908. Samuels, William Frederick, L.M.&L.S.Dubl., Medical Superintendent, Central Asylum, Tangong, Rambutan, Perak, Federated Malay States.
 1894. Sankey, Edward H. O., M.A., M.B., B.C.Cantab., Resident Medical Licensee, Boreatton Park Licensed House, Baschurch, Salop.
 Sankey, R. H. Heurtley, M.R.C.S.Eng., 3, Marston Ferry Road, Oxford.
 1873. Savage, Sir Geo. H., M.D., F.R.C.P.Lond., 26, Devonshire Place, London, W. 1. (*Late Editor of Journal.*) (PRESIDENT, 1886.)
 1906. Scanlan, John J., L.R.C.P.&S.Edin., L.R.F.P.&S.Glasg., D.P.H., 1, Castle Court, Cornhill, London, E.C. 3.
 1896. Scott, James, M.B., C.M.Edin., 98, Baron's Court Road, West Kensington, London, W. 14.
 1915. Scott, James McAlpine, M.D., Ch.B.Glasg., Junior Assistant Medical Officer, Stirling District Asylum, Larbert.
 1889. Scowcroft, Walter, M.R.C.S., L.R.C.P.I., Medical Superintendent, Royal Lunatic Hospital, Cheadle, near Manchester.
 1911. Scroope, Geoffrey, M.B., B.Ch.Dub., Assistant Medical Officer, Central Asylum, Dundrum.
 1880. Seccombe, George S., M.R.C.S., L.R.C.P.Lond., c/o Messrs. H. S. King and Co., 65, Cornhill, London, E.C. 3.
 1912. Sergeant, John Noel, M.B., B.S.Lond., M.R.C.S., L.R.C.P.Lond., Medical Superintendent, Newlands House, Tooting Bec Common, London, S.W. 17. (*Secretary South-Eastern Division since 1913.*)
 1913. Shand, George Ernest, M.D., Ch.B.Aber.; (Senior Assistant Medical Officer, City Mental Hospital, Winson Green, Birmingham). *Temporary address*: 4, Odessa Road, Harlesden, London, N.W. 10. *Permanent address*: 307, Gilott Road, Edgbaston, Birmingham.
 1901. Shaw, B. Henry, M.B., B.Ch.R.U.I., Assistant Medical Officer, County Asylum, Stafford.
 1905. Shaw, Charles John, M.D., Ch.B., F.R.C.P.E., Medical Superintendent, Royal Asylum, Montrose.
 1915. Shaw, Hugh Kirkland, M.B., Ch.B.Edin., Assistant Medical Officer, Stirling District Asylum, Larbert.
 1917. Shaw, John Custance, M.R.C.S.Eng., L.R.C.P.Lond., Medical Superintendent, West Ham Borough Asylum, Goodmayes, Essex.
 1904. Shaw, Patrick, L.R.C.P.&S.Edin., Medical Superintendent, Hospital for Insane, Ararat, Victoria, Australia.
 1909. Shaw, William Samuel J., M.B., B.Ch.R.U.I., Superintendent, North Veravola, Poona, India.
 1909. Shepherd, George Ferguson, F.R.C.S., L.R.C.P.Irel., D.P.H., 9, Ogle Terrace, South Shields.
 1900. Shera, John E. P., M.D.Bru., L.R.C.P.&S.Irel., Somerset County Asylum, Wells, Somerset.
 1912. Sheridan, Gerald Brinsley, M.B., B.Ch.R.U.I., Valkenberg Mental Hospital, Cape Town, S. Africa.

1914. Sherlock, Edward Burball, M.D., B.Sc., D.P.H.Lond., Medical Superintendent, Darent Industrial Colony, Dartford.
1914. Shield, Hubert, M.C., M.B., B.S.Durh., Assistant Medical Officer Gateshead Borough Asylum, Stannington, Newcastle-on-Tyne.
1877. Shuttleworth, George E., B.A.Lond., M.D.Heidelb., M.R.C.S. and L.S.A. Lond., 36, Lambolle Road, Hampstead, London, N.W. 3.
1901. Simpson, Alexander, C.B.E., M.A., M.D., C.M.Aber., Medical Superintendent, County Asylum, Winwick, Newton-le-Willows, Lancashire.
1905. Simpson, Edward Swan, M.D., Ch.B.Edin., East Riding Asylum, Beverley, Yorks.
1888. Sinclair, Eric, M.D., C.M.Glasg., Inspector-General of Insane, Richmond Terrace, Demain, Sydney, N.S.W.
1891. Skeen, James Humphry, M.B., Ch.M.Aber., M.P.C., Medical Superintendent, Fife and Kinross District Asylum, Cupar, N.B.
1914. Slaney, Chas. Newnham, M.R.C.S., L.R.C.P.Lond., The Elms, Parkhurst, I.W.
1901. Slater, George N. O., M.D.Lond., M.R.C.S., L.R.C.P.Lond., Assistant Medical Officer, Essex County Asylum, Brentwood.
1914. Smith, Charles Kelman, M.B., Ch.B.Aberd., Assistant Medical Officer, Parkside Asylum, Macclesfield.
1910. Smith, Gayton Warwick, M.D.Lond., B.S.Durh., D.P.H.Cantab., M.R.C.S., L.R.C.P.Lond., Assistant Medical Officer, Springfield Mental Hospital, Tooting, London, S.W. 17.
1905. Smith, George William, M.B., Ch.B.Edin., Chiswick House, Chiswick.
1907. Smith, Henry Watson, M.D., Ch.B.Aberd., Medical Superintendent, Lebanon Hospital for the Insane, Asfurujeh, near Beyrout, Syria.
1899. Smith, John G., M.D., C.M.Edin., Firbank, Burghill, Hereford.
1885. Smith, R. Percy, M.D., B.S., F.R.C.P.Lond., M.P.C., 36, Queen Anne Street, Cavendish Square, London, W. 1. (*General Secretary*, 1896-7. *Chairman Educational Committee*, 1899-1903.) (*PRESIDENT*, 1904-5.)
1913. Smith, Thomas Cyril, M.B., B.Ch.Edin., County Asylum, Gloucester.
1911. Smith, Thomas Waddelow, F.R.C.S.Eng., L.R.C.P.Lond., M.P.C., Assistant Medical Officer, City Asylum, Mapperley Hill, Nottingham.
1884. Smith, W. Beattie, F.R.C.S.Edin., L.R.C.P.Edin., 4, Collins Street, Melbourne, Victoria.
1914. Smith, Walter H., B.A., M.D., B.Ch.Dub., Senior Assistant Medical Officer, County Asylum, Shrewsbury.
1899. Smyth, Walter S., M.B., B.Ch.R.U.I., Assistant Medical Officer, County Asylum, Antrim.
1913. Somerville, Henry, B.Sc., M.R.C.S.Eng., L.R.C.P.Lond., F.C.S., Harrold, Sharnbrook, Bedfordshire.
1885. Soutar, James Greig, M.B., C.M.Edin., M.P.C., 20, Royal Parade, Cheltenham. (*PRESIDENT*, 1912-13.)
1906. Spark, Percy Charles, M.R.C.S., L.R.C.P.Lond., Medical Superintendent, London County Asylum, Banstead, Surrey.
1875. Spence, J. Beveridge, M.D., M.C.Q.U.I., Medical Superintendent, Burntwood Asylum, near Lichfield. (*First Registrar*, 1892-1899; *Chairman Parliamentary Committee*, 1910-12.) (*PRESIDENT*, 1899-1900.)
1891. Stansfield, T. E. K., C.B.E., M.B., C.M.Edin., Medical Superintendent, London County Mental Hospital, Bexley, Kent.
1901. Starkey, William, M.B., B.Ch.R.U.I., Medical Superintendent, Borough Asylum, Blackadon, Ivybridge, S. Devon.
1907. Steele, Patrick, M.D., Ch.B., M.R.C.P.Edin., Assistant Medical Officer, District Asylum, Melrose.
1898. Steen, Robert H., M.D.Lond., M.R.C.P.Lond., Medical Superintendent, City of London Mental Hospital, Stone, Dartford; Professor of Psychological Medicine and Out-patient Physician, King's College Hospital. (*Hon. Sec. S.E. Division*, 1905-10; *Acting Gen. Sec. and Gen. Sec.* 1915-19.)

1914. Stephens, Harold Freize, M.R.C.S.Lond., L.R.C.P.Eng., 9, Belmont Avenue, Palmer's Green, Middlesex.
1914. Stevenson, George Henderson, M.B., Ch.B.Edin., D.P.H.Lond., Joyce Green Hospital, Dartford, Kent.
1912. Stevenson, William Edward, M.B., B.S.Durh., Winnell Down Camp, Winchester.
1909. Steward, Sidney John, M.D., D.S.O., B.C.Cantab., M.R.C.S., L.R.C.P. Lond., Assistant Medical Officer, Langton Lodge, Farncombe, Surrey.
1915. Stewart, A. H. L., M.R.C.S., 72, Wimpole Street, London, W. 1.
1868. Stewart, James, B.A.Belf., F.R.C.P.Ed., L.R.C.S.I., "Donegal," 32, Kingsmead Road, Tulse Hill, London, S.W. 2.
1913. Stewart, Ronald, M.B., Ch.B.Glasg., Gartloch Asylum, Gartcosh, Glasgow.
1887. Stewart, Rothsay C., M.R.C.S.Eng., L.S.A.Lond., Medical Superintendent, County Asylum, Narborough, near Leicester.
1914. Stewart, Roy M., M.B., Ch.B.Edin. (Assistant Medical Officer, County Asylum, Prestwich); Mediterranean Expeditionary Force c/o G.P.O., E.C. 1.
1905. Stilwell, Henry Francis, L.R.C.P.&S.E., Hayes Park, Hayes, Middlesex.
1899. Stilwell, Reginald J., M.R.C.S., L.R.C.P.Lond., Moorcroft House, Hillingdon, Middlesex.
1897. Stoddart, William Henry Butter, M.D., B.S., F.R.C.P.Lond., M.R.C.S. Eng., M.P.C., Harcourt House, Cavendish Square, London, W. 1. (*Hon. Sec. Educational Committee, 1908-1912.*)
1909. Stokes, Frederick Ernest, M.D., Ch.B.Glasg., D.P.H.Cantab., Assistant Medical Officer, Borough Asylum, Portsmouth.
1905. Strathearn, John, M.D., Ch.B.Glasg., F.R.C.S.E., 23, Magdalen Yard Road, Dundee.
1903. Stratton, Percy Haughton, M.R.C.S., L.R.C.P.Lond., 10, Hanover Square, London, W. 1.
1885. Street, C. T., M.R.C.S., L.R.C.P.Lond., Haydock Lodge, Ashton, Newton-le-Willows, Lancashire.
1909. Stuart, Frederick J., M.R.C.S., L.R.C.P.Lond., Senior Assistant Medical Officer, Northampton County Asylum, Berrywood.
1900. Sturrock, James Prain, M.A.St.And., M.D., C.M.Edin., 25, Palmerston Place, Edinburgh.
1886. Suffern, Alex. C., M.D., M.Ch.R.U.I., Medical Superintendent, Rubery Hill Asylum, near Bromsgrove, Worcestershire.
1894. Sullivan, William C., M.D., B.Ch.R.U.I., Rampton Criminal Lunatic Asylum, Retford, Notts.
1918. Sutherland, Francis, M.B., Ch.B.Edin., Senior Assistant Physician, Royal Asylum, Aberdeen.
1910. Sutherland, Joseph Roderick, M.B., Ch.B.Glasg., M.R.C.S., L.R.C.P. Lond., D.P.H., County Sanatorium, Stonehouse, Lanarkshire.
1919. Suttie, Ian D., M.B., Ch.B.Glas. (Assistant Medical Officer, Royal Asylum, Glasgow), 1055, Great Western Road, Glasgow.
1908. Swift, Eric W. D., M.B.Lond., Medical Superintendent, Government Asylum, Bloemfontein.
1908. Tattersall, John, M.D.Lond., M.R.C.S., M.R.C.P.Lond., Assistant Medical Officer, London County Asylum, Hanwell, London, W. 7.
1910. Taylor, Arthur Loudoun, M.B., Ch.B., B.Sc., M.R.C.P.Edin., Craigend Neurasthenic Hospital, Craigend Park, Liberton, Midlothian.
1897. Taylor, Frederic Ryott Percival, M.D., B.S.Lond., M.R.C.S.Eng., L.R.C.P. Lond., Medical Superintendent, East Sussex Asylum, Hellingly.
1918. Thienpont, Rudolph, M.D., Temporary Assistant Medical Officer, Cane Hill Mental Hospital, Coulsdon, Surrey.
1908. Thomas, Joseph D., B.A., M.B., B.C.Cantab., Northwoods House, Winterbourne, Bristol.

1911. Thomas, William Rees, M.D., B.S.Lond., M.R.C.S., M.R.C.P.Lond., M.P.C., Mosside, Maghull, near Liverpool.
1880. Thomson, David G., C.B.E., M.D., C.M.Edin., Medical Superintendent, County Asylum, Thorpe, Norfolk. (PRESIDENT, 1914-18.)
1903. Thomson, Herbert Campbell, M.D., F.R.C.P.Lond., Assist. Physician Middlesex Hospital, 34, Queen Anne Street, London, W. 1.
1905. Tidbury, Robert, M.D., M.Ch. R.U.I., Heathlands, Foxhall Road, Ipswich.
1901. Tighe, John V. G. B., M.B., B.Ch.R.U.I., Medical Superintendent, Gateshead Mental Hospital, Stannington, Northumberland.
1914. Tisdall, C. J., M.B., Ch.B., Tue Brook Villa, Liverpool.
1903. Topham, J. Arthur, B.A.Cantab., M.R.C.S., L.R.C.P.Lond., County Asylum, Chatham, Kent.
1896. Townsend, Arthur A. D., M.D., B.Ch.Birm., M.R.C.S., L.R.C.P.Lond., Medical Superintendent, Hospital for Insane, Barnwood House, Gloucester.
1904. Treadwell, Oliver Ferreira Naylor, M.R.C.S.Eng., L.S.A.Lond., 90, St. George's Square, London, S.W. 1.
1903. Tredgold, Alfred F., M.D., F.R.S.Edin., L.R.C.P.Lond. M.R.C.S.Eng., 6, Dapdune Crescent, Guildford, Surrey.
1908. Tuach-MacKenzie, William, M.D., Ch.B.Aberd., Medical Superintendent, Royal and District Asylums, Dundee.
1881. Tuke, Charles Molesworth, M.R.C.S.Eng., Chiswick House, Chiswick, W. 4.
1888. Tuke, John Batty, M.D., C.M., F.R.C.P.Edin., Resident Physician, New Saughton Hall, Polton, Midlothian.
1915. Tulloch, William John, M.D.St. Andrews, Director Western Asylums Research Institute, 10, Claythorn Road, Glasgow.
1906. Turnbull, Peter Mortimer, M.C., M.B., B.Ch.Aberd., Tooting Bec Asylum, Tooting, London, S.W. 17.
1909. Turnbull, Robert Cyril, M.D.Lond., M.R.C.S., L.R.C.P.Lond., Medical Superintendent, Essex County Asylum, Colchester.
1889. Turner, Alfred, M.D., C.M.Edin., Plympton House, Plympton, S. Devon.
1906. Turner, Frank Douglas, M.B.Lond., M.R.C.S., L.R.C.P.Lond., Medical Officer, Royal Eastern Counties Institution, Colchester.
1890. Turner, John, M.B., C.M.Aberd., Medical Superintendent, Essex County Asylum, Brentwood.
1917. Vevers, Oswald Henry, M.R.C.S., L.R.C.P.Lond., Norton Vicarage, Evesham.
1904. Vincent, George A., M.B., B.Ch.Edin., Assistant Medical Superintendent, St. Ann's Asylum, Port of Spain, Trinidad, B.W.I.
1894. Vincent, William James N., C.B.E., M.B., B.S.Durb., M.R.C.S., L.R.C.P.Lond., Medical Superintendent, Wadsley Asylum, near Sheffield.
1914. Vining, Charles Wilfred, M.D., B.S., M.R.C.P.Lond., D.P.H., M.P.C., Assistant Physician, Leeds General Infirmary, 40, Park Square, Leeds.
1919. Waddell, Arthur Robert, M.D., C.M.Glasg., Deputy Commissioner, Medical Services, Exeter Area; Roseland, Baldock, Herts.
1913. Walford, Harold R. S., M.R.C.S.Eng., L.R.C.P.Lond., Assistant Medical Officer, Kent County Asylum, Barming Heath, Maidstone.
1914. Walker, Robert Clive, M.B., Ch.B.Edin., West Riding Asylum, Menston, near Leeds.
1908. Wallace, John Andrew Leslie, M.D., Ch.B.Edin., M.P.C., Mental Hospital, Callan Park, Sydney, N.S.W.
1912. Wallace, Vivian, L.R.C.P. & S.I., Assistant Medical Officer, Mullingar District Asylum, Mullingar.

1889. Warnock, John, *C.M.G.*, M.D., C.M., B.Sc.Edin., Medical Superintendent, Abbasiyeh Asylum, nr. Cairo, Egypt.
1895. Waterston, Jane Elizabeth, M.D.Bru., L.R.C.P.I., L.R.C.S.Edin., M.P.C., 85, Parliament Street, Box 78, Cape Town, South Africa.
1891. Watson, George A., M.B., C.M.Edin., M.P.C., Lyons House, Rainhill, Liverpool.
1908. Watson, H. Ferguson, M.D., Ch.B.Glas., L.R.C.P.&S.E., L.R.F.P.&S.Glas., D.P.H., 25, Palmerston Place, Edinburgh.
1910. Webb-Johnson, Cecil, M.B., Ch.B.Vict., 150, Harley Street, W. 1.
1911. Webber, Leonard Mortis, M.R.C.S., L.R.C.P.Lond., Assistant Medical Officer, Netherne, Merstham, Surrey.
1919. Westrup, Joseph Perceval, M.R.C.S.Eng., L.R.C.P.Lond., Medical Officer, Fisherton House Mental Hospital, Salisbury.
1919. Wheeler, Frederic Francis, M.R.C.S.Eng., L.R.C.P.Lond., Assistant Medical Officer, Long Grove Mental Hospital, Epsom, Surrey.
1911. White, Edward Barton C., M.R.C.S., L.R.C.P.Lond., Senior Assistant Medical Officer, Cardiff City Mental Hospital, Whitchurch, S. Wales.
1884. White, Ernest William, *O.B.E.*, M.B.Lond., M.R.C.P.Lond., Betley House, nr. Shrewsbury. (*Hon. Sec. South-Eastern Division, 1897-1900.*) (*Chairman Parliamentary Committee, 1904-7.*) (*PRESIDENT 1903-4.*)
1905. Whittington, Richard, M.A., M.D.Oxon., M.R.C.S., L.R.C.P.Lond., 1, Eaton Gardens, Hove, Sussex.
1889. Whitwell, James Richard, M.B., C.M.Edin., Medical Superintendent, Suffolk County Asylum (St. Audry's Hospital), Melton, Suffolk.
1913. Wilkins, William Douglas, M.B., Ch.B.Vict., M.R.C.S., L.R.C.P.Lond., County Mental Hospital, Cheddleton, Leek, Staffs.
1900. Wilkinson, H. B., M.R.C.S., L.R.C.P.Lond., Assistant Medical Officer, Plymouth Borough Asylum, Blackadon, Ivybridge, South Devon.
1887. Will, John Kennedy, M.A., M.D., C.M.Aberd., M.P.C., Bethnal House, Cambridge Road, London, N.E. 1.
1914. Williams, Charles, L.R.C.P. & S.Edin., L.S.A.Lond., Assistant Medical Officer, The Warneford, Oxford.
1907. Williams, Charles E. C., M.A., M.D., B.Ch.Dubl.; Branksome Chine House, Branksome Park, Bournemouth.
1905. Williams, David John, M.R.C.S., L.R.C.P.Lond., Medical Superintendent, The Asylum, Kingston, Jamaica.
1915. Williams, Gwilym Ambrose, M.R.C.S.Eng., L.R.C.P.Lond., Pathologist and Assistant Medical Officer, East Sussex County Asylum, Hellingly.
1916. Wilson, Marguerite, M.B., Ch.B.Glasg., The Retreat, York.
1912. Wilson, Samuel Alexander Kinnier, M.A., M.D., B.Sc.Edin., F.R.C.P.Lond., Registrar, National Hospital, Queen's Square, 14, Harley Street, London, W. 1.
1899. Wolseley-Lewis, Herbert, M.D.Bru., F.R.C.S.Eng., L.R.C.P.Lond., Medical Superintendent, Kent County Asylum, Barming Heath, Maidstone. (*Secretary Parliamentary Committee, 1907-12. Chairman of same since 1912.*)
1869. Wood, T. Outterson, M.D.Durh., M.R.C.P.Lond., F.R.C.P., F.R.C.S.Edin., 7, Abbey Crescent, Torquay. (*PRESIDENT, 1905-6.*)
1912. Woods, James Cowan, M.D., B.S.Lond., M.R.C.S., L.R.C.P.Lond., 10, Palace Green, Kensington, London, W. 8.
1885. Woods, J. F., M.D.Durh., M.R.C.S.Eng., 7, Harley Street, Cavendish Square, London, W. 1.
1912. Wootton, John Charles, M.R.C.S.Eng., L.R.C.P.Lond., Haydock Lodge, Newton-le-Willows, Lancs.
1900. Worth, Reginald, *O.B.E.*, M.B., B.S.Durh., M.R.C.S., L.R.C.P.Lond., Medical Superintendent, Springfield Mental Hospital, nr. Tooting, S.W. 17. (*General Secretary 1919.*)
1917. Wright, Maurice Beresford, *O.B.E.*, M.D., C.M.Edin. (118, Harley Street, London, W. 1); 10, Palace Green, Kensington, London, W. 8.

1862. Yellowlees, David, LL.D.Glasg., M.D.Edin., F.R.F.P.&S.Glasg., "Grange-neuk," Fountainhall Road, Edinburgh. (PRESIDENT, 1890.)
 1914. Yellowlees, Henry, O.B.E., M.D., Ch.B.Glasg., F.R.F.P.S.Glasg., 151, Morningside Drive, Edinburgh.
 1910. Younger, Edward George, M.D.Bruz., M.R.C.P., M.R.C.S., L.S.A.Lond., D.P.H., Physician to the Finsbury Dispensary, 2, Mecklenburgh Square, London, W.C. 1.

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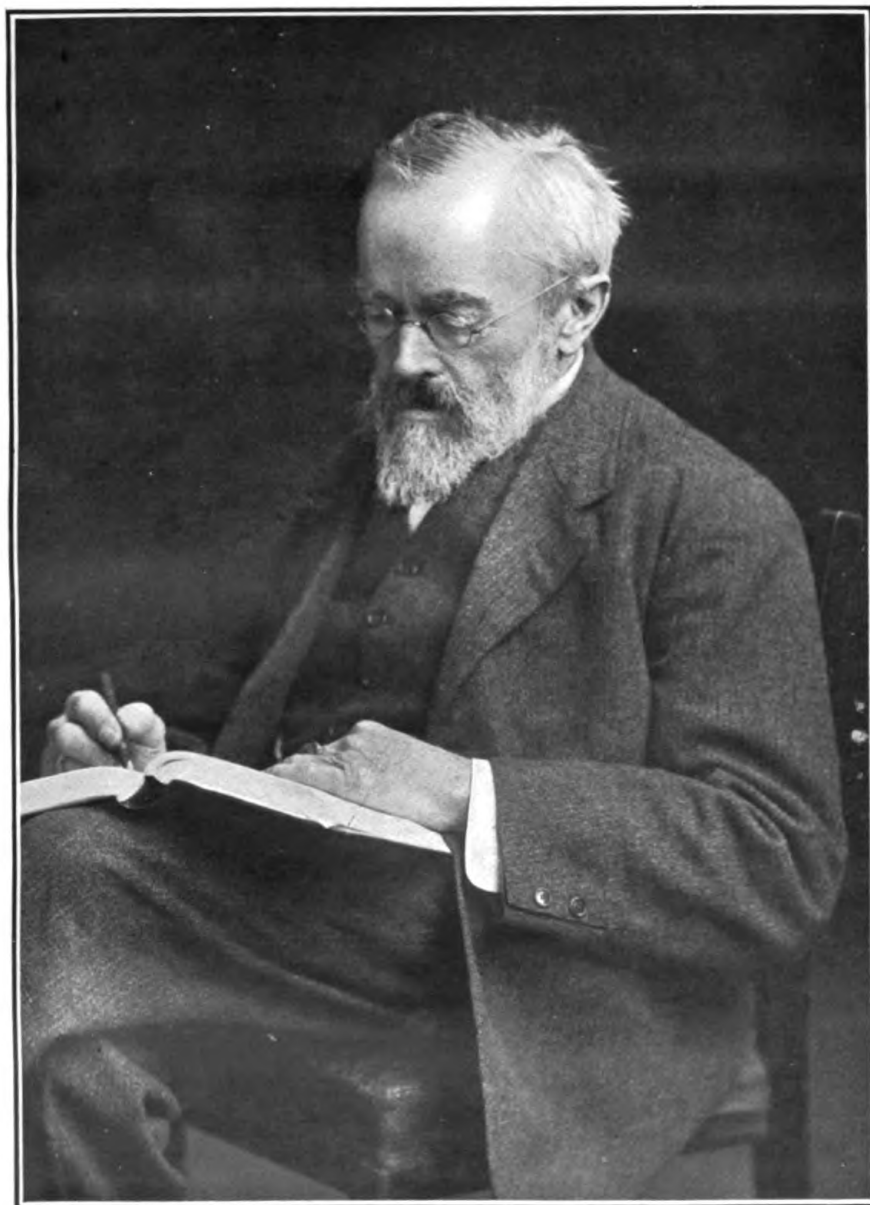
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1887. Schüle, Heinrich, M.D., Illenau, Baden, Germany.
 1881. Tamburini, A., M.D., Reggio-Emilia, Italy.

Members.

1869. Aldridge, Chas., M.D., C.M.Aber., L.R.C.P.Lond., Bellevue House, Plympton, Devon.
 1902. Beale-Browne, Thomas Richard, M.R.C.S.Eng., L.R.C.P.Lond., c/o P.M.O. Lagos, Nigeria, West Africa.
 1897. Dove, Emily Louisa, M.B.Lond., 11, Jenner House, Hunter Street, Brunswick Square, London, W.C. 1.
 1884. Drapes, Thomas, M.B.Dubl., L.R.C.S.I., Medical Superintendent, District Asylum, Enniscorthy, Ireland; "Milleen," Dalkey, Co. Dublin. (PRESIDENT-ELECT, 1910-11; *Co-Editor of Journal since 1912.*)
 1917. Fearnside, Edwin Greaves, M.D.Camb., B.C., M.A., 46, Queen Anne Street, Cavendish Square, London, W. 1.
 1891. Mercier, Charles A., M.D.Lond., F.R.C.P., F.R.C.S.Eng., late Lecturer on Insanity, Westminster Hospital; Moorcroft, Parkstone, Dorset. (*Secretary Educational Committee, 1893-1905. Chairman do. from 1905-12.*) (PRESIDENT, 1908-9.)
 1902. Watson, Frederick, M.B., C.M.Edin., Elm Lodge, Clay Hill, Enfield.
 1883. Wiglesworth, Joseph, M.D., F.R.C.P.Lond., Springfield House, Winscombe, Somerset. (PRESIDENT, 1902-3.)



CHARLES ARTHUR MERCIER, M.D.Lond., F.R.C.P.Lond., F.R.C.S.Eng.
Obiit September 2nd, 1919. President 1908-9.

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CHARLES ARTHUR MERCIER.

M.D.LOND., F.R.C.P.LOND., F.R.C.S.ENG. B. 1852: D. 1919.

ONLY two years have passed since the death of one of the most eminent of our scientific interpreters and teachers in the province of mental diseases, and now another has gone from us whose intellectual power and rare attainments were in many respects strikingly comparable with those of Henry Maudsley. This likeness has doubtless been already noted by many. It struck me some thirty-five years ago, at the outset of my acquaintance with Mercier and some of his works and from my knowledge of Dr. Maudsley's writings, since the first edition of his *Physiology and Pathology of Mind* was published in 1867. But as the characteristics which these memorable men had in common have probably never been noted in print, I venture here to make brief mention of some of them. It would perhaps be as easy to draw a contrast as a comparison, especially as regards some of their philosophical views, their individual and social qualities, and their literary styles. But my personal knowledge of Dr. Maudsley was not intimate enough to fit me to speak on some of these points, and the others speak for themselves in each author's written works.

Both Maudsley and Mercier possessed in large measure the scientific mind, and their works were marked alike by a dominant determination to search out as thoroughly and explain as clearly and fully as their powers allowed the subject they had chosen for the chief labour of their lives. The terms they used were so clearly defined that their arguments left but few gaps for strictly logical criticism, however unacceptable by some their conclusions may have been. Both men were trenchant and alert in controversy, and, perhaps in part consequence, neither was always popular among those who were but slightly acquainted with them. In their wide and intimate knowledge of the best of English literature both excelled, and these and other acquirements, coupled with their exceptional faculty of retentive memory, supplied them with rich stores of

illustrations and examples which contributed largely to the charm and clarity of their writings. Both, too, had a mass of readily quotable knowledge of the Bible, Shakespeare, and numerous other classics, to an extent not often attained even by purely literary specialists.

In making this short comparison I am reminded of the pleasure and profit which I owe to the works of both Maudsley and Mercier. The former impressed me early with a strong preference for the study of subjects based on scientific knowledge rather than on tradition, while Mercier's writings on insanity, some time after I had taken to medical work and was becoming interested in psychological medicine, gave me the kind of guidance that I had been looking for in vain. And still, after frequent re-readings, they seem to me to have achieved more completely than any others the immensely difficult task of making plain, to the serious beginner needing enlightenment, the many rough places that obstruct the approach to knowledge of this attractive but perplexing subject. But I am not intending here to compare these books with other and larger works which abound in detailed information, and are expressly written for those who specialise as alienist physicians.

Mercier spent his life in strenuous effort. In some respects his boyhood recalls that of Charles Dickens. After a few years at Merchant Taylors' School he sought his own living by reason of family circumstances, and engaged in various employments where he gained some varied knowledge and experiences which stood him in good stead later. During this time he went to sea as a cabin-boy, and afterwards served as a clerk in a London warehouse. Ultimately he was enabled to commence medical-student life at the London Hospital when about eighteen years old, and he qualified as M.R.C.S. four years later. From this time forwards he was self-supporting. I have lately heard from a distinguished surgeon, who was Surgical Registrar at the Hospital when Mercier was House-Surgeon, that he was looked upon as exceptionally bright and thoughtful, giving promise of intellectual achievements of no common order, and that when in after years he renewed his acquaintance with Mercier, he "marvelled greatly at his wide knowledge of all sorts of subjects outside his professional work: general literature, mechanics, agriculture, etc." He adds, "I loved him, admired him, and read everything written by him."

At the London Hospital Mercier came especially under the influence of Dr. Hughlings Jackson, and thus was led to study deeply the writings of Herbert Spencer which greatly inspired Jackson's thought and work. Mercier was one of but two men I have known who read through twice and carefully studied the whole of Spencer's volumes. Knowledge of this rare feat must have kindled even that calm philosopher's enthusiasm. It was no long time before Mercier's natural bent towards scientific thought and philosophy became fixed, and, as might have been

expected, he devoted himself especially to his favourite studies and took to alienism as his profession. After serving as a medical officer in some large public asylums, he was, on the recommendation of Sir James Crichton-Browne, appointed as resident physician to a private institution which was in need of thorough reconstruction. Under his auspices the institution was energetically reformed, removed from London to Catford, in Kent, and carried on by him successfully for many years until failing health obliged him to resign. For a few years he practised in London, and finally went to Parkstone in Dorsetshire, where he took private patients until a few years before his death.

During a period of over twenty years he suffered severely from the pains and the progressive crippledom of osteitis deformans. In his later years he was attacked by a deafness that at last was nearly total, and in course of time by choroiditis, which for many months before his death put a stop to reading and writing. He began, however, to write by dictation, and persevered until a sharp onset of gout in the foot followed promptly by diaphragmatic pleurisy was his almost sudden death-blow; for his chest had for long stopped its breath-work.

Until about the last eight years, spent at Parkstone, Mercier held many appointments, and did much public work of value. He was Lecturer on Insanity at Westminster Hospital School of Medicine for many years as well as at the London School of Medicine for Women; and later he held a similar post at Charing Cross Hospital, where he was also Physician for Mental Diseases. At the London University he was examiner on this subject. As a member of the Departmental Committee on the Treatment of Inebriety, appointed by the Home Secretary in 1908, he did good service, contributing in large measure to the Report; and his evidence given before the Royal Commission on the Care and Control of the Feeble-minded on behalf of the Royal College of Physicians was of considerable importance. His sound knowledge and rare power of expressing himself with precision of language gained him much credit when giving evidence in the Law Courts, and he was for many years a prominent and welcome speaker at the Medico-Legal Society. Mercier was also appointed by the College of Physicians to deliver the Fitzpatrick Lectures on the History of Medicine in 1913 and 1914, his subjects being "Astrology in Medicine" and "Leper Houses and Mediæval Hospitals."

It is needless for me to recite here any particulars of Dr. Mercier's long service and activity in connection with this Journal and the Association, but I would call to remembrance the address he gave in his year of Presidency, which was a very striking and thoughtful account of his own attitude at that time towards the questions underlying the problem of the relation between body and mind.

He was married a second time after an interval of several years,

and had the grievous fate to lose, only a few years before his death, the much-loved wife to whom he had been married but two years.

In reviewing here the special qualities of Dr. Mercier as an alienist, a scientific philosopher and a man of letters, I cannot attempt any detailed or even adequate criticism of his numerous and varied works. I have already indicated my judgment of him as an alienist physician and teacher, and do not propose to speak much further under this head in a journal among whose readers there are many more fitted than myself to deal comprehensively with this part of the subject. But as I am impressed with the belief that Mercier has been from time to time more or less misunderstood, and therefore misrepresented, in respect to one matter which seems to me of importance, I shall make a brief endeavour to lessen or dispel the misunderstanding to which I refer. I gather from what I have heard at some meetings of the Association and have read long ago in medical journals, that from the early time when Mercier began to insist on the primary importance of concentrating on disorder of conduct in the diagnosis and interpretation of insanity, he was frequently understood and quoted as meaning that disorder of conduct was the primary pathological event in point of time that ultimately led up to the diseased state known as insanity. In other words it seems to have been sometimes implied that Mercier looked upon disease of the mind as a result of disorder of conduct.

I am well aware that occasionally in the course of controversial correspondence Mercier did not re-state in full the definition of insanity which he had frequently reiterated in his writings and had persistently set forth, as disorder of conduct always connoting disorder of mind and brain and other organs. And when, on one of the occasions mentioned above, he replied to his critic, "When I say that insanity is primarily a disorder, not of mind, but of conduct, I intend to state my doctrine, not of conduct, but of insanity," it is perhaps not very surprising that his meaning, however clear it must have been to most readers, might be somewhat obscure to others who were imperfectly acquainted with Mercier's previous writings, or had not taken the trouble to find out the real point at issue.

However this may be, it is very plain even in his early writings that he was insisting on the fact that disorder of mind could and did exist without insanity; that disorder of conduct is of the first importance as a sign of insanity, and often the *sole* sign, its accompaniments being matters of inference only or mainly. Mercier, in a word, taught that a man is rightly judged as insane from evidence of what he says and does, not of what one may infer or guess that he thinks or feels.

As to how far Mercier's teaching on this matter was original or not mere opinions may differ. This question cannot be discussed here. It appears to me, however, that at first he was criticised, *not* for talking

platitudes, but for holding erroneous views ; but that in later years, and after his own reiterated statements that his views had not been accepted, it was argued that, on the contrary, his views were common property and required no assistance to recommend them. For myself I cannot avoid the conclusion, based on the grounds above stated, that Mercier was in this instance, as in all others, very far from thinking or even talking platitudes when he issued his first work on insanity, and I feel sure that genuine misconception on the part of some of his hearers and his readers must have given rise to the question of the importance and originality of his teaching in this respect. It is of course only this last-named question which really concerns this memorial notice ; and as, in common with many others, I hold the view that this part of Mercier's exposition of the scientific study of insanity is both original and light-giving in a very notable degree, I have deemed it right to give my own notion of this matter. Mercier was doubtless an eager disputant on many questions of varying importance, when no point of scientific moment was concerned, and sometimes plunged into controversy for the mere pleasure of it. On such occasions he often allowed his abundant wit and humour to have full play ; and though in most of his serious writings this tendency was duly restrained, it may have been sometimes apparent in a context which rendered it liable to misinterpretation. But the bulk of his important works bears the true marks of careful observation and sound reasoning, and demonstrates his single aim to search out the truth in all questions into which he inquired.

As a philosophical student of scientific matters, especially in the sphere of *Psychology*, Mercier's rank was confessedly high. Yet he is not readily classed as an adherent of any special school or 'ism'. During most of his life he was strongly influenced by the biological and psychological tenets of Herbert Spencer. Thus he continued to hold, long after the time when the work of Weismann and other biologists had shown grounds for rejecting it, the doctrine of the strictly biological transmission to offspring of characters specially developed in the lifetime of parents. And his psychological writings, especially in their theoretical aspect, were, like Maudsley's, more or less coloured by these views on questions of heredity and reproduction. But later in life he became increasingly inclined to recognise more fully the part played by training and experience, especially as regards the human mental qualities, in the development of characters, and to regard all alike as the joint product of a transmitted germinal tendency and of environmental action.

On the more speculative, but, with regard to the scientific study of psychology, the more relevant question of the relation between bodily and mental functioning, Dr. Mercier was, at least until his later years, a confessed "dualist" or "epiphenomenalist," and taught, with Spencer

and others, one doctrine of an "impassable gulf" between so-called "mind" and so-called "matter." ⁽¹⁾

Yet even on this much-debated question there were, I think, a few signs in Mercier's later writings and perhaps more in what he said in the course of discussion, of his inclination towards the views which he had formerly opposed. At any rate, Mercier was no blind follower of any authority. He was an independent thinker, far more ready to modify or abandon his opinions than some of his critics have supposed.

In noticing some of the most important of Mercier's many other books I must confine myself to mere indication of what I deem to be their merits, without attempting any critical review.

His earlier work on the *Nervous System and the Mind*, which preceded by several years his later and more widely known treatise on *Psychology, Normal and Morbid*, may still be regarded as a valuable exposition of the subject, in which no one of any school of thought is likely to find much cause for quarrel. It is especially adapted for readers beginning their studies.

Much the same may be said of the book on *Conduct and its Disorders, Biologically Considered*, in which the author estimates the various modes and phases of human activity in the light of their value in securing the survival of man in the struggle for existence. This book is complementary to several others of Mercier's works, and, though open to criticism from some biological points of view, must take a high place for its originality and practical value. It bears the mark of much study and close thinking.

The work entitled *A New Logic* consists of a detailed criticism of both traditional and modern logic as taught in professional lectures and treatises, as well as of an insistent setting forth of the distinction between the "material" argument on which action depends and by which discovery is made, and the forming logic of postulation, in which the proposition is formulated for the purpose of the argument. The book has met with more blame than favour from specialists in logic, to some extent apparently on the ground of the author's alleged misunderstanding of the Aristotelian logic. I cannot venture to enter even into the precincts of the modern logical arena, but will say only that at least the constructive part of this book, on the science and art of reasoning, seems to me of the highest worth to all intelligent students who desire to learn how to think correctly. Much of its contents may be read with advantage in connection with the author's book on *Causation*, presently to be mentioned, in which there will be found an acute criticism on J. S. Mills' *Canons of Induction*, and also Mills' whole treatment of "Causation."

Mercier's book on *Causation and Belief*, which of all his more especially philosophical works I rank the highest in respect of sound

thinking, clear expression and practical value, must be passed over here without any justification of my opinion of it. It appeared first in this Journal in January and April, 1916, and subsequently was published in book form by Messrs. Longmans & Co. Such a book was greatly needed. The thoroughly practical chapter on "Causes of Death and Causes of Insanity" affords one out of many striking illustrations of the high value of this book, and in itself may serve to contribute largely to the justification which space forbids me to attempt. The two books by Mercier dealing with the legal and medical sides of the subject of crime and criminals, entitled respectively *Criminal Responsibility in the Insane* and *Crime and Criminals*, were both awarded (with an interval of ten years) the Swimey Prize, which is given jointly by the Society of Arts and the Royal College of Physicians for the best book on medical jurisprudence. The first has been acclaimed widely by both legal and medical authorities, and the second, in my judgment and that of many others conversant with the subject, sets forth within comparatively small compass one of the most comprehensive, careful and best-reasoned expositions of the subject-matter with which I am acquainted. It is written with truly scientific method and much knowledge of the material dealt with. This work is destined to outlive for an indefinite time the immense majority of all others devoted to the consideration of the nature of crime and criminals.

A few more books, minor in point of size although not all of them in relative importance, are well worthy of note. In his later years Mercier took up strongly the subject of "modern spiritualism" and "telepathy," which he had hitherto deemed too insignificant for serious handling; but, on the appearance of Sir Oliver Lodge's reiterated announcement, in the book entitled *Raymond*, that the facts alleged in evidence of spiritualism had been proved *scientifically*, he proceeded to make a careful study of the material published over a space of many years by many writers on both sides of this question, including the *Reports of the Society for Psychical Research*. Thereafter he wrote a book called *Spiritualism and Sir Oliver Lodge*. This thorough and brilliant examination of Sir O. Lodge's method of inquiry and the complete confutation of the claim he made for scientific proof of his conclusions was followed not long afterwards by an inimitably close parody of the spiritualistic reasonings of Sir Oliver Lodge and others, with the title of *Spirit Experiences*, to which as a sub-title the publisher added, *Or the Conversion of a Sceptic*. This contained numerous references to the doings of "mediums," well known and widely advertised in spiritualistic writings, and was aptly complementary to Mercier's previous counterblast to the Professor's book. But the pamphlet seems to have grievously misled several "spiritualists" and believers in "telepathy," as well as other reviewers, the former welcoming the author as a deserter from "ortho-

dox" science to their own ranks, and some of the latter deploring the mental breakdown that could alone, as they deemed, account for this great lapse of a "distinguished scientist." This *jeu d'esprit* cannot fail to call to the minds of some of us an occasion when Mercier ventured to read a paper before the Medico-Psychological Association on the Interpretation of Dreams, when his subtle parabolic essay was at first misconstrued by some, but at last, as its meaning appeared, brought down upon the reader some measure of disapproval for its ill-placed levity.

To speak duly of Mercier as a man of letters is beyond my present scope. His style varied considerably with his subject-matter, but it was ever noticeable for its pure, unpretentious and incisive English. He wrote with great rapidity; but in his larger works, and indeed most others, he pruned and corrected much, frequently re-writing them in part and sometimes wholly. In his choice of the right word, for the sake of both accurate expression and literary form, he may be held to have rivalled such masters of writercraft as R. L. Stevenson and Flaubert. But under the easy and clear flow of his sentences the linguistic precisian that he really was lay very deeply hidden.

Before ending this attempt to estimate the qualities of Dr. Mercier I venture to give the following quotations, the one from an appreciation kindly sent me by a literary friend of his and mine, Mr. Herbert Allport, the other from a short notice of him written by Sir William Osler, and published in the *British Medical Journal* in September, 1919.

Mr. Allport, who is the Secretary of an old-established club known as "The Casual," which meets for frequent informal discussions on all kinds of subjects, and of which Mercier was for many years one of the brightest members, writes thus: "There was no man of letters whom Mercier loved better than Dr. Johnson, and there was no man whose sayings he quoted more frequently. He had much in common with his hero: the same fearlessness in controversy, the same sturdy common sense, the same trenchancy of expression, the same wide and varied knowledge, the same pugnacity, and sometimes, perhaps, the same disposition to talk for victory . . . Whenever I was in straits for a paper at the Casual Club I used to write to him for help. By return of post he answered—'You can put me down for any date you like.' He might almost have added, 'for any *subject* you like,' for there were few with which he was not able and willing to deal . . . Usually, when a man asks you for criticism it means that he is asking you for praise. Mercier not only accepted criticism with the readiest good humour, but was always willing to modify what he had written if he thought you had made out your point . . . He wrote many books on many subjects, and the subjects, within certain limits, modified the style. There were, however, three characteristics which were never absent. The first

and most important was the lucidity of thought and expression. The second was the purity of the English. The third, which I have not seen mentioned elsewhere, was the abundance and felicity of the examples and illustrations. A fourth characteristic—the humour and sarcasm which distinguished him—was less uniformly manifested; but whether they were rigidly held in check or displayed with freedom, humour and sarcasm were always at his command. Mercier was the most many-sided man whom I have known with intimacy, and probably everyone who came in close contact with him could contribute some fresh trait of intellect or character. His knowledge of general history and literature was astonishing in one whose attention had been chiefly given to other studies. He had a few minor foibles, but there was no one whom I admired so greatly, and I shall always be proud that he was willing to regard me as a friend."

Sir William Osler writes thus of Mercier: "Though not of Oxford, and a sharp critic of her methods, the University had a great fascination for him, and of late years he not infrequently would spend a few days at the Randolph seeing old friends. It was a rare treat to have him dine in Hall, and afterwards, in Common Room, start a discussion on the need of reform in our methods of education. He had very clear and sound views, and argued with great ability upon the uselessness of logic as at present taught. He delighted to shock the classical don by unmeasured abuse of Aristotle, whose methods, he claimed, had done irreparable damage to the human mind. With a rich vocabulary and a keen wit he had no equal among us as a controversialist. He was best with a few friends after dinner, with enough port, as he would say, to quiet his gout. When last with me, a few months ago, he was in fine form—I never saw such a triumph of mind over matter—and entertained us with stories of his student life and anecdotes of Hughlings Jackson and Jonathan Hutchinson. Maître François must have been a man of this type, and Mercier's trick of tongue was racial. Controversy he loved, and, strange to say, it brought him friends; despite the caustic pen, he had a warm, generous heart. The courage with which he bore his many infirmities is a lesson to us all. Never complaining, he worked on to the end, and went down, as he promised, with all the 'flags flying.' We shall miss the brilliant critic of our ways and words."

I would add but little on my own account to the words of these discerning critics. However, on some occasions, Mercier's readiness to engage in controversy and his great joy of battle may have brought him into sharp conflict of wit with some who misunderstood him, and others who disagreed with his views know that he was a man innocent of all rancour.⁽²⁾ He never nursed a grudge, and always assumed that those with whom he disputed were as ready as he was himself to take

impersonally the passes and hits of argumentative encounters. In this assumption, however, he was occasionally mistaken, and perhaps he was sometimes himself to blame for being misunderstood. He may have had some enemies, but he numbered troops of friends. He was straightforward, fearless, warm-hearted and ever trustworthy. His abounding courage inspired him to fight down depression in many seasons of great trouble, and throughout that period of more than twenty years when his life might be truly called "a long disease."

Among several able and untiring workers I have personally known who bravely and cheerfully laboured on to the end there was but one other whose many struggles, pains and sorrows could be fittingly matched with his. He alone of them could have rightfully endorsed these verses by that other who was the maker of them :

" In the fell clutch of circumstance
I have not winced nor cried aloud,
Under the bludgeoning of chance
My head is bloody, but unbowed.

" It matters not how strait the gate,
How charged with punishment the scroll,
I am the master of my fate ;
I am the captain of my soul."

. H. BRYAN DONKIN.

(¹) Here he differed widely from Maudsley, whose writings clearly show him to have been a scientific materialist, and a direct successor, equipped with modern physiological knowledge, to the French encyclopædist philosophers, such as d'Holbach and Cabanis; himself, it may be added, to be succeeded by Mr. Hugh Elliot, the author of the newly-published and weighty book on *Modern Science and Materialism*.—(²) As one instance out of several where strenuous scientific disputes in journals led to subsequent acquaintance and ultimate friendship I would record that one of the warmest of Mercier's opponents was appointed by him as his literary executor.

Part I.—Original Articles.

The Need for Schools of Psychiatry. By C. HUBERT BOND, D.Sc., M.D.Edin., F.R.C.P.Lond., Commissioner of the Board of Control and Emeritus Lecturer in Psychiatry at the Middlesex Hospital Medical School.

IN their fourth Annual Report, published in 1918, the Board of Control drew attention—not for the first time, but in more extended form than hitherto—to deficiencies in the arrangements, as at present organised, for the treatment of persons suffering from mental disorder,

especially in its incipient and early stages; to the insufficiency of attention paid at medical schools ⁽¹⁾ to this important branch of medical science with its consequent ill-effects both to patients and to the medical profession; and to the absence of any special qualification in psychiatry, as a requirement for the higher medical posts in public institutions for the insane, such as is demanded in public health of medical officers of health of areas of above a stated size.

That these deficiencies could not be made good without amendment of the existing law was recognised, and accordingly a series of recommendations in this direction were included in the report. As some of these are *sub judice*, it is not proposed on this occasion to refer to them, or, other than by way of their desirability as at least adjuncts in a school of psychiatry, to the establishment of clinics for mental as well as other neurological cases (including beds as well as an out-patient department).

(A) CLINICS.

(1) *Their Necessity for Mental Cases.*

With respect to these clinics, it is, however, submitted that, whether as independent units or—and, it is suggested, preferably—at or closely affiliated with general hospitals, they should be regarded absolutely indispensable as an integral part of the clinical facilities of every medical school (a) if this branch of medicine is to be taught adequately to its importance, both in the students' curriculum and after qualifying in medicine, and (b) if it is to receive study and research on organised lines, without which progress cannot be other than intermittent and spasmodic. A third reason (c) for their indispensability will be mentioned a little later on.

The grounds of the hitherto prevailing disinclination of general hospitals to shoulder this additional burden, quite apart from financial considerations, are not difficult to understand, and, indeed, command sympathy.⁽²⁾ But the significance of the mental element in diseases not classified as of the nervous system—even in surgical affections—is happily receiving increasing attention; and it is to be hoped that the day is not far distant when no general hospital staff will be deemed complete without a physician possessing expert knowledge in psychiatry: especially is this the more probable, firstly as the necessity of specialism becomes more admitted, and secondly, and by implication, as appreciation grows of the advantage of all forms of expert knowledge being readily available for each patient—in short, the benefit of what is frequently referred to nowadays as “team-work.”

If an interpolation will be pardoned, and though not part of my theme, it may be remarked that consistency requires that this doctrine, once

accepted, should be applied to the medical administration of all our institutions for the insane; and that their arrangements should provide that to the physicians of those institutions, regarding themselves as primarily mental experts, and for consultation with them experts in other branches should be available—not merely in emergency, but as part of the routine consideration of at least the recent cases and others in need of active treatment. This suggestion may savour of the unattainable ideal, and so, indeed, having regard to the situation of certain of the institutions, it must for a considerable time to come probably remain; but, as respects a fair proportion of them, it could, if desired, be attained even now—indeed, examples are not wanting of partial attempts thereat.

(2) *Their Affiliation with General Hospitals.*

With that digression, let me return to and complete what, for the purposes of this paper, is requisite to be said as to clinics to which mental cases are admitted. The third reason for their necessity and—as is now submitted—for their affiliation with general hospitals is (c) the reluctance of sufferers from premonitory and early symptoms of mental breakdown either to present themselves for advice at the out-patient department of, or submit themselves to treatment in, a hospital, which—*res ipsa loquitur*—labels the patient as the subject of a nervous or mental ailment. Perhaps some day, when our profession is more skilled in the differential diagnosis of the forms of mental disorder, can with greater precision assert what these and those premonitory symptoms signify, and can offer encouragement with the voice of certainty, an end will be made of this prejudice, which at present is moreover only too often stimulated by attempts to draw minatory inferences from misleading and ill-digested statistics of heredity. Till that day arrives, the most promising hope of breaking what in reality is a vicious circle of obstacles to treatment and advancement of knowledge in the subject is an invitation and welcome from general hospitals to all persons so suffering, coupled with adequate arrangements, reasonably limited as to extent, for the in-patient treatment of severer but recoverable mental cases. There is abundant evidence that such persons, either at their own initiative or by the action of their friends, are willing to go for treatment to a hospital that is general in its medical functions; for they realise that privacy as to the nature of the ailment is possible, and that the prejudice they fear need not be aroused. *Arrangements for out-patients.*—Out of these arguments arises my strong opinion that, to attain the fullest measure of success, the out-patient department of such a clinic should not be at the clinic but should form one of the sections, and be manifestly a part of the general out-patient department of the hospital.

(3) *Their Relation to Other Clinical Units.*

Furthermore, and to complete the picture as to the position a clinic admitting mental cases should occupy in the clinical arrangements of a medical school and as an integrant of a school of psychiatry, its structural and other needs—about which I should like to say something on another occasion—practically demand that it should be somewhat if not entirely an entity. On the score of prejudice, that necessity imports a danger which, if possible, should be avoided. Here, again, probably the most promising method is to take advantage of the policy proposed or being pursued by several general hospitals towards meeting their needs for extension; whereby, in lieu of attempting to enlarge the existing structure, arrangements are made to treat certain types of patients in separate units erected on a site where land is liberally available—their administration forming part of that of the parent building with which, by the latter's name being extended to them, their identity is maintained.

Clearly the mental clinic, as respects in-patient treatment, should form one of these units. To this effect definite proposals have been made and schemes are in preparation. To cite them might be premature; but if any present here this afternoon feel at liberty to do so, more specific information than can be found in my remarks would doubtless be an encouragement elsewhere.

If yet one other interpolation is permissible, and before passing from the question of these clinics for mental cases, it is my desire to enter a friendly but strong protest against a readiness on the part of some of those who welcome the advent of these clinics to relegate existing institutions for the insane—truly not without an expression of regret—to the rôle of providing for the care and nursing of irrecoverable cases: if rightly understood, verily a noble duty calling out great qualities and demanding much self-sacrifice; but such a divorce from incentive to treat to recovery would be medically depressing to an extreme degree, and would cause these institutions to be pervaded with a most prejudicial feeling of helplessness. It is scarcely necessary to labour the point, as it is most unlikely that the clinics, whether as parts of medical schools or scattered more widely, will ever be able to meet the needs of all recent cases requiring asylum treatment and of all those that are in point of fact recoverable.

(4) *Their Functions in Relation to Mental Cases.*

On the other hand, these clinics, as respects their provision for mental cases, should aim at fulfilling three main functions, and should afford—

(1) Therapeutic facilities (a) for that proportion of recent and recoverable cases (whether certifiable or not, but not certified) upon whom

existing arrangements press most hardly, and (b), in their section of the general out-patient department, for incipient uncertifiable cases and for certifiable cases in their early stages, so many of whom, through lack of treatment, have to face life's difficulties with a continuous feeling of self-insufficiency.

(2) Better educational facilities during the medical curriculum, enabling the student constantly to appreciate the relationship between psychological and general medicine; but even these facilities will be incomplete without the clinical material of the neighbouring public asylum, between which and any school of psychiatry it is most important that there should certainly be always a close link; and—

(3) A centre for both laboratory and clinical research and post-graduate study, for without these such a school must be barren.

If they can successfully make these provisions they will abundantly fulfil the brightest hopes that can reasonably be entertained of them. *Per contra*, without their establishment and, as I believe, without their affiliation to general hospitals, a number, difficult to estimate but by no means negligible, of persons, the subject of various neuroses and mental ailments, will continue untreated to carry on their daily tasks to their own dissatisfaction and to the detriment of themselves and society.

(B) DIPLOMAS IN PSYCHOLOGICAL MEDICINE.

(1) *Their Institution*, 1908-12.

Most of us here to-day must have a lively recollection of the stimulating effect of the paper⁽³⁾ read at the May Quarterly Meeting in 1908 by Lieut.-Col. D. G. Thomson. In it he laid bare the position and powerfully advocated a series of measures, including the establishment of diplomas, to combat the absence in this country of an adequate scheme of instruction in the institutes and practice of psychiatry. The movement that ensued is so closely associated with his name that it is only with diffidence that another can take up its threads; and though his goodwill has been secured in advance, my intervention is only the result of representations that now, at the end of a decade since the initiation of the proposals, a stocktaking of progress is due, that the time is ripe for further representations to the bodies concerned and of an assurance from the Secretary that this communication on the subject will be welcome.

It will also be recalled that Col. Thomson's paper, and a resolution⁽⁴⁾ which he moved at the annual meeting in the same year, led to the appointment of a sub-committee⁽⁵⁾ of the Educational Committee to consider the matter in detail; and that ultimately a highly important circular letter,⁽⁶⁾ signed by the then President, the late Dr. Mercier, was forwarded to each of the Universities and other medical examining

bodies in the United Kingdom. In making their recommendations, the Association formulated a carefully-considered syllabus of instructional courses which, it was suggested, should lead up to the establishment of diplomas in psychiatry.

Within the ensuing two years gratifying action was taken by five of the Universities—Manchester, Leeds, Edinburgh, Cambridge and Durham—each of which, in the order enumerated, passed regulations for a diploma after attendance on approved courses and examination in prescribed subjects. A perusal of these five sets of regulations shows that the Association's suggestions have been largely adopted; but though they present many points of agreement, in several particulars they differ considerably. In the hope that it may be of some service, a summary of their similarities and differences is herewith appended. It is not, however, intended to allude to these in any way *seriatim*, and only in so far as it is desired to offer comments upon them.

(2) *Obstacles to Progress.*

That the action taken by these five Universities was a step of deep import to our specialty no one will gainsay; and if its immediate results have been meagre and perhaps disappointing to its authors—for, in truth, less than a score of candidates have taken these diplomas—any settled feeling of discouragement or disillusionment would be unjustified and betoken ignorance of the facts. In the first place, the war caused a partial if not entire cessation of the qualifying courses, and swept into the naval and military services wellnigh all the men who might have been tempted to proceed to one of these diplomas; and secondly, the interval (from two to four years) between their institution and the outbreak of war brought into prominence obstacles, from which—if the truth is to be told and one may say so without offence—some lack of enterprise and of appreciation of the responsibility incurred in attempting to treat those mentally ill cannot be wholly excluded. But if in one direction the war had a retarding influence, there is encouraging evidence that in other ways it has had a quickening influence. It has taught us many lessons: in our profession generally, the efficacy of special training and of the real expert's skill; in our particular branch of treatment, that there is need of much more of the purely medical element; and above all, the need to be up and doing and to give of our best. These are lessons which inspire confidence that obstacles of a personal nature need not be feared.

There are, however, difficulties connected with the circumstances in which asylum physicians are placed (situation of the institution, need for study-leave, uncertainty of prospects, etc.) which merit careful attention. My colleagues, ever since the institution of these diplomas, have watched the movement with interest and sympathy, and, impressed with its

importance, the Board included in the recommendations already referred to one to the effect that the possession of a diploma in mental diseases should ultimately be obligatory upon the holders of the higher medical posts on the staffs of institutions for the insane. In the meantime and in the absence of any such enactment they have given further careful consideration to the matter, and feeling that the remedy for at least some of the principal difficulties is within the discretionary powers of Visiting Committees, the Board contemplate the issue of a circular letter to those bodies. It would be improper to anticipate the details of that letter; but, for the purposes of my argument, let us assume all circumstantial difficulties can be and, with mutual goodwill, will be removed.

(3) *Their Scope, and Some Suggestions.*

Upon the scope of the diplomas, especially as at least one of them is under revision, it is desired to raise the following points for consideration:

(1) As to their description, three of them are termed “—in Psychological Medicine,” the other two being “—in Psychiatry.” It is very doubtful if the latter term can now be deemed sufficiently wide in its ambit; the former is probably to be preferred, and it moreover lends itself to the use of the letters D.P.M. by way of abbreviation—a triviality perhaps, but not without importance.

(2) It seems a pity that each does not lay down a minimum period, subsequent to obtaining a registrable qualification, before which the examination cannot be completed—*e.g.*, two years.

(3) It is highly desirable that the regulations and syllabus of each should plainly indicate the University term or terms during which each course (whether systematic or practical) is available, with the days and hours sufficiently set out to enable candidates to ascertain their ability to attend.

(4) A statement, clearer than is always to be found, would be appreciated as to the minimum extent to which the whole curriculum for the diploma must be attended at the University in question. This can be expressed as so many of the total number of terms required for the full curriculum, or as so many courses out of the total number of subjects (the plan already adopted in two instances), or in the alternative. Two of the five Universities do not apparently insist on any local attendance. If criticism is permissible, this latitude, though not without its convenience in existing circumstances, seems to be regrettable, as the association of the University's name invites the assumption that at least some important share of the diplomate's knowledge is the fruit of a school of thought with traditions of its own. Should a diploma in psychological

medicine be ultimately obtainable at all our Universities, and especially should their intramural arrangements permit of the development of a school of psychiatry at each, perhaps this view will prevail.

(5) Another point upon which more precise information would be helpful is the matter of fees for instructional courses. The fee for each course should be stated, and it would be advantageous were a composition fee quoted for the courses of Part I of the examination, another for Part II, and a third for both Parts.

(6) The examination for each of the five diplomas is divided into two parts, and the subjects, with some variation, fall under the following eight heads: (*a*) Development and anatomy of the nervous system; (*b*) physiology, histology and chemistry of the nervous system; (*c*) pathology of the brain and nervous system, with *post-mortem* room and laboratory technique; (*d*) bacteriology, in only two of the diplomas, and, as respects one of them, limited to its relation to mental diseases—these four heads are invariably comprised in Part I of the examination, as is the next head in the case of one diploma; (*e*) psychology, systematic and experimental; (*f*) neurology; (*g*) psychiatry; and (*h*) clinical psychiatry. It is suggested that in each of the diplomas Part II should be reserved for the strictly professional subjects and that it should be required to be passed as a whole; but that permission should be accorded for candidates to present themselves in the subjects of Part I separately, and also to be exempted from any subject of Part I in which they have previously passed an examination of not less standard and scope. For example, the latter concession might apply, as regards the anatomy and physiology of the nervous system, to those who have passed the Primary Examination for the Fellowship of the College of Surgeons of England; as regards bacteriology in its relation to mental diseases (where included), to those who possess a degree or diploma in public health; and as regards psychology—which, under the suggestion as to the scope of Part II, and probably more logically, would fall into Part I—to graduates in arts or science for whose degree psychology has formed a subject. It is further suggested as regards Part II that, besides psychiatry and neurology, the time has come when the importance of knowledge of psychopathology, the psychoneuroses and psychotherapy demands the inclusion of these matters in this curriculum and examination—a view supported by a commentary by Prof. T. H. Pear, of Manchester, lately made to teachers in psychiatry, and by my former colleague Dr. Bernard Hart in a communication⁽⁷⁾ in connection with an inquiry into “The Training of the Student of Medicine” carried out by the Edinburgh Pathological Club. The adoption of this suggestion should carry with it recognition of clinical experience of the psychoneuroses, either as an extra or in lieu of, say, three months of the time prescribed for clinical instruction in psychiatry where that period extends to not less than a

year; such recognition has already been sanctioned at one of the Universities. Further, not, however, as an addition, but in order to emphasise the principle that specialism should only be encouraged when based upon a competent general knowledge, this opportunity is taken to suggest that "The relation of psychiatry to general and preventive medicine" should be specified as a sub-head in Part II.

(7) Lastly, the diplomas and instructional courses should, as seems so far the case, be as freely accessible to medical women as to men. Mention is only made of the point by way of emphasising the useful sphere open to women as asylum physicians.

It would, however, be a mistake to dwell too insistently upon the possession of this or that diploma; it is but a hall-mark. The really important result to be attained is that, based upon a previous thoroughly sound knowledge of general medicine, a prescribed course of instruction shall have been followed, and that there shall have been acquisition of knowledge not merely of facts memorised, but of principles which not only render the holder at once more efficient, but which, by the force of his awakened interest, result in his becoming a true student of his special branch of medicine throughout his working years.

(C) LOCAL CO-ORDINATION.

Our goal, therefore, should by no means be limited to repetitions of courses of instruction leading to a diploma at certain or preferably at each of the Universities. Rather should we urge that the importance of the whole subject of mental health justifies and calls for, not merely a colleague relationship between the several teachers in our diplomate's curriculum—some of whom may possibly belong to other Faculties in the University than that of medicine—but a partnership so outwardly and visibly manifest as to deserve the name of School of Psychiatry; and differences in tradition between such schools will be all to the good.

(1) *To Secure Instructional Courses and Opportunities for Continuation Studies.*

For such local consolidations of teaching activities the foundation may be said to exist already at practically every University. For example, courses of anatomy and physiology on a standard for advanced students are given yearly, and a few weeks of each of these two courses are devoted to the nervous system. It may be that at present the weeks covered by the anatomy of the nervous system do not coincide with those given to the physiology of that system; but would the rearrangement necessary to make them do so, and other similar adjustments to enable the subjects of Part I of the Diploma (so far as they may be said to comprise the institutes of psychiatry) to be taught

simultaneously, present serious difficulty or dislocate work in a manner prejudicial to those taking the full courses? Inquiry at least might be made, and, if the answer is in the negative, the road to the assistance we want seems smooth—still more so when the number of teachers and laboratory facilities are on a considerable scale. As regards Part II, adjustments are probably not necessary; but lecturers in sufficient number may not at once be available, especially if they are to be properly remunerated.

But to overcome admitted difficulties, and to induce a correlation of work on the part of a body of teachers whose duties and interests are much wider than merely towards the sphere in which our interest lies, demand reciprocity as expressed by a clear call for such assistance—a call which, if limited to ambition to obtain a diploma, will be too faint to produce an effective echo. In other words, a correlation and consolidation of work worth the name of school of psychiatry (or neuro-psychiatry) connotes a bilateral contract that supply and demand shall correspond, and an avowed intention to advance both these complements.

(2) *To Develop Schools of Psychiatry.*

In the face of the knowledge of facts acquired in recent years as to psychology in the abstract and mental health in the concrete, it is inconceivable that a University will willingly be without such an organic unit as is here meant by a school of psychiatry. Should we therefore not see to it that support is not lacking from the periphery? Is it too much to ask that those who, by the responsibility they assume, profess expert knowledge—be it in psychology, neurology or psychiatry (severally or as a triad), and whether their responsibility extends to the abnormal or to the maintenance of a watch on the mental development of normal children⁽⁸⁾, or whether they act as aids in the capacity of social service workers—is it too much to expect them, collectively and individually, to give active assistance in the development of such schools, and to maintain a close working association with them? It is fatally easy for our professional work to slip into a groove which, followed, ends in mental fog; and to dispel which, or prevent its rising, is there anything more potent than a breath of the atmosphere of a progressively animated University?

Inconvenient distances and perhaps other difficulties at once present themselves to our minds; but, if the situations of the institutions from whose medical staffs this Association mainly recruits its members are examined in relation to their proximity to the nearest University, it is surprising, in the face of all that has at times been said as to the isolation of their positions, to find how comparatively few there are, at least of those

in England and Wales, which are not sufficiently near a University to enable a reasonable number of hours—be they at a clinic, in laboratories, in libraries or at discussions—to be put in and the journey to and fro to be made on one day. Time so taken should count for grace, not as neglect of official duties, so long as in fact they are not thereby neglected, and not as part of needful recreation.

To be effective, such attendance and visits must be regular and form part of a recognised scheme between the institutions grouped round the particular University, and they take for granted—which is what we may be sure the Universities would like us to do—their active goodwill and co-operation. But before birth can be given to such a scheme—and as left with you to-day it is in very crude form—definite adherents must be forthcoming, and it is because this Association is in the best position, both to ascertain if a sufficient number of would-be adherents exist and to put the scheme into better shape, that I have used this opportunity⁽⁹⁾ to lay it tentatively before the meeting.

ADDENDUM.

DIPLOMAS IN PSYCHOLOGICAL MEDICINE.

Summary of Requirements of those now Existing.

Based upon suggestions made in 1908-9 by the Medico-Psychological Association—who still grant their own certificate in mental diseases which was established in 1892, and has been taken by 370 medical practitioners—five of the Universities in Great Britain have instituted and now grant a diploma in psychiatry or psychological medicine, as indicated in the subjoined table.

| Date of institution. | University. | Designation of diploma. |
|----------------------|--------------|------------------------------------|
| 1910 . | Manchester . | Diploma in Psychological Medicine. |
| 1911 . | Leeds . | " " " |
| 1911 . | Edinburgh . | " Psychiatry. |
| 1912 . | Cambridge . | " Psychological Medicine. |
| 1912 . | Durham . | " Psychiatry. |

While their regulations point to much similarity in their scope and examinations, these five diplomas present several important differences, of which, and their similarities, the following is a summary:

(1) *Age and medical standing.*—No minimum age is prescribed by any of the five Universities, and the diploma of each of them is open to all medical practitioners whose names are on the medical register, except in the case of Leeds, whose diploma is restricted to graduates in medicine (but not necessarily of Leeds) of one year's standing. Manchester and Cambridge require candidates to have attained a registrable qualification at least two years previously to their completing the examination for the diploma, but both permit Part I of the two divisions, into which each of the five Universities divide the examination, to be passed at any time after qualification.

(2) *Duration of courses.*—One academic year of three terms is ordained at Manchester and Edinburgh; six months at Leeds; and, while no corresponding period is specified at Cambridge and Durham, the latter University prescribes either the length of each instruction course or the number of hours of work to be performed (see (i) to (viii) below), and the former enjoins at least twelve months' clinical experience in an institution for the insane (see (vii) and (viii), and note (b) below). At Durham, practitioners registered prior to the year 1911 are excused from attendance on the courses of instruction specified for the diploma.

(3) *Attendance at the University granting the Diploma.*—At Manchester two of the requisite three terms must be spent at that University; at Leeds a six months' course of systematic instruction on the normal and morbid anatomy and histology of the brain must be pursued in the recognised laboratories of the University; at Edinburgh attendance at the University on five of the prescribed eight courses is obligatory; none is insisted upon at either Durham or Cambridge.

(4) *Curriculum and examinations.*—These comprise, in varying extent as indicated, the following eight heads:

(i) *Development and anatomy of the nervous system.*—Manchester's requirements are set out in the next paragraph; and for those of Leeds and Cambridge see notes (a) and (b) below. By Edinburgh and Durham ten meetings of two hours each are specified; the latter University indicates the standard as an advanced one.

(ii) *Physiology, histology and chemistry of the nervous system.*—At Manchester heads (i) and (ii) are grouped together and an approved course is required. The requirements at Leeds and Cambridge are indicated in notes (a) and (b) below. Thirty meetings, each of two hours' duration, are allotted by both Edinburgh and Durham.

(iii) *Pathology of the brain and nervous system, with post-mortem room and laboratory technique.*—At Manchester an approved course is required and for Leeds and Cambridge see notes (a) and (b) below. Edinburgh and Durham both specify twenty meetings of two hours each.

(iv) *Bacteriology.*—Edinburgh limits the scope to its relation to mental diseases in a three months' laboratory course of two or three hours daily. Durham requires the same course of instruction as for its degree of Bachelor in Hygiene. The other three Universities do not demand work in bacteriology further and subsequent to that included in the general medical curriculum; but as to Cambridge, see the latter part of note (b).

(v) *Psychology, systematic and experimental.*—Instruction at an approved course is required by Manchester and Leeds, qualified in the case of the latter by especial reference to the symptomatology of mental diseases. A course of from twenty-five to thirty hours is required by Edinburgh and Durham. At Cambridge—and see note (b)—this subject is included in Part I of the examination, whereas at each of the other four Universities it is reserved for Part II.

(vi) *Neurology.*—A course of ten clinical demonstrations is prescribed by both Durham and Edinburgh, the former limiting them to the rarer forms of nervous disease and the latter regarding them as supplementary to the ordinary M.B. course; and a course of clinical neurology is required by Manchester. Thus at each of these three Universities emphasis is laid upon the clinical aspect of this subject, but at Cambridge, while the duration of the course is not specified—see note (b)—a syllabus is laid down and there is a written as well as clinical and oral examination in neurology. In the Leeds curriculum there is no specific reference to neurology, reliance apparently being placed upon the courses under heads (i), (ii) and (iii).

(vii) and (viii): *Psychiatry and clinical psychiatry.*—A six months' course of instruction in psychiatry (systematic, clinical, medico-legal and asylum administration) is prescribed by Manchester, but this course is apparently excused in the case of those who have acted as resident medical officer in an asylum for one year or for the two separate periods of six months. Leeds requires a six months' course in clinical psychiatry, asylum administration and the medico-legal aspects of insanity, and residence in an asylum as clinical clerk or assistant medical officer for six months, but the instructional course is excused where the candidate has been an assistant medical officer for two years in an asylum with at least 500 beds. Both Edinburgh and Durham require lectures in a course of ten hours supplementary to the course required for the M.B. degree, and both require instruction in clinical psychiatry either in a course of six months given at a recognised institution or in a course of three months, coupled with the holding of a resident appointment for three months—both alternatives being subject to modification if residence has extended to six months. Cambridge requires twelve months' clinical experience in a recognised institution, for which purpose special neurological hospitals of over 40 beds, under either the War Office or Ministry of Pensions, have recently been added to the list of places so recognised.

Note (a).—The Leeds regulations do not lay down the length and scope of the several courses required with as much particularity as generally elsewhere; but there is a governing regulation prescribing, for all the subjects of examination for the diploma, attendance on approved courses of instruction during six months at least after graduation; it may also be noted that its regulations with respect to heads (i), (ii) and (iii) refer specifically to the brain and not to the nervous system in general.

Note (b).—The Cambridge regulations make no specific reference to attendance at instructional courses, but wide powers to determine generally matters connected with the examination are left to a managing committee nominated by the State-Medicine Syndicate; and while schedules of the matters included under heads (i), (ii), (v) and (vi) are supplied, it is made clear that they are merely for guidance and not to limit the scope of the examination, which is intended to test the candidates' theoretical and practical knowledge of every branch of psychological medicine.

(5) *Examinations*.—As already indicated, each of the five Universities groups the subjects it requires into two parts; each part forms one examination, and Part I, except at Cambridge, must be passed prior to or at appearance for Part II. Except at Cambridge, the subjects numbered (i), (ii), (iii) and, where required, (iv) are comprised in Part I, and (v), (vi), (vii) and (viii) in Part II. At Cambridge Part I comprises subjects (i), (ii) and (v), while Part II includes (vi), with (iii), (vii) and (viii).

(6) *Fees for instruction*.—It is not easy to ascertain them from the regulations as respects Manchester, Leeds and Cambridge. A composition fee of 25 guineas is payable at Durham and the total of the fees at Edinburgh amounts to about 18 guineas.

(7) *Examination fees*.—These amount to 10 guineas at Manchester, Edinburgh and Durham, 5 guineas at Leeds and 12 guineas at Cambridge.

In addition to these five diplomas a diploma in mental diseases, open to graduates in medicine, was instituted by the Royal University of Ireland in 1895 and is still maintained by the National University. Particulars as to this diploma will be found in the calendar for 1919 at pp. 120 and 264.

Several of the Universities in the United Kingdom recognise mental diseases as a subject in which a candidate may specialise for the degree of doctor in medicine. Notably psychological medicine is one of the departments in which the degree of M.D. may be taken at the University of London. Mental disease is also one of the special departments in which a candidate may exercise his choice as to one of the three cases, upon which he must submit a written report and commentary at the clinical part of the examination for the M.D. degree at the four Scottish universities.

None of the colleges of physicians grants a diploma in psychological medicine, notwithstanding that they all do so (conjointly with the corresponding college of surgeons) in public health, and that one of them does so in tropical medicine. The Royal College of Physicians of London, however, holds for its members (but not for its licentiates) an examination in psychological medicine and permits the fact of this having been passed to be endorsed on the membership diploma. At the Royal College of Physicians of Edinburgh candidates for the membership are required to pass an examination (1) on the principles and practice of medicine, including therapeutics, and (2) on one of nine subjects—among which is psychological medicine—to be selected by the candidate, in which a high standard of proficiency is expected. At the Royal Faculty of Physicians and Surgeons of Glasgow the examination for the Fellowship comprises either medicine or surgery and one, at the option of the candidate, of some thirteen subjects or branches of surgery and medicine, among which is psychological medicine. It may be of service to mention here that in the case of candidates who have served in the recent war at home or abroad, it is possible during the ensuing five years to secure the privilege of being examined for this Fellowship solely in psychological medicine. At the Royal College of Physicians of Ireland candidates for the membership are required to pass a general examination in medicine and pathology and a special examination in one of three groups or in a group or subdivision of medicine, which shall be judged to be equal in value to one of the specified groups; and it is understood that the College, upon two months' notice, are

willing to consider the value of subjects submitted by a candidate who wishes to specialise in psychological medicine.

While care has been taken to make this summary accurate, intending candidates should, of course, consult the official regulations.

(¹) See *Lancet*, April 6th, 1912, p. 934; *ibid.*, June 21st, 1919, p. 1092; *ibid.*, August 2nd, 1919.—(²) *Journal of Mental Science*, vol. lxi, 1915, p. 1.—(³) *Ibid.*, vol. liv, 1908, p. 550.—(⁴) *Ibid.*, vol. liv, 1908, pp. 791-3.—(⁵) *Ibid.*, vol. lv, 1909, p. 757, and vol. lvi, 1910, p. 374.—(⁶) *Ibid.*, vol. lvi, 1910, p. 373.—(⁷) *Edinburgh Medical Journal*, October, 1918.—(⁸) See *Lancet*, April 27th, 1912, p. 1017; and December 20th, 1919, p. 1167.—(⁹) Quarterly Meeting of the Association, November 25th, 1919.

Some Mental Cases with Endocrine Considerations. By GUY P. U. PRIOR, M.R.C.S., L.R.C.P., Medical Superintendent, Mental Hospital, Rydalmere; with Reports on Microscopical Findings by S. EVAN JONES, M.B., Medical Officer, Mental Hospital, Callan Park, New South Wales.

It is well known that with the grosser lesions of many of the ductless glands there are profound alterations in the subject's mental powers. There are doubtless many less pronounced mental alterations due to slighter lesions of these glands which are for the most part unrecognised—in fact difference in character and disposition in different individuals and in the same individual at different times may be due to the variation in the balance of the internal secretions.

Those alterations due to lessened action of a gland have been brought about experimentally by removing the gland in question, with constantly recurring results.

The mental changes due to over-secretion of a gland are not so well understood, and the effect produced by prenatal or congenital gland disease upon the cerebral development has hardly been studied. Congenital thyroid disease in the form of myxœdema and cretinism and the results of treatment with thyroid are known, but the effects of early or congenital failure of the other glands are not, and it is possible that the changes in the central nervous system caused by these may be as far-reaching as those in thyroid failure. It is likely that early changes in gland tissue may be a potent cause of imbecility. Many an imbecile bears unmistakable signs of glandular dystrophy. An Editorial article in *Endocrinology* refers to an unpublished paper, which states that of 1,000 defective children 17 *per cent.* were recognised as of endocrine origin (1). The same article also states that the Binet-Simon age of defective children has been advanced many years after a few months of treatment with thyroid or pituitary. It is possible that there is a large class of ill-defined cases of want of endocrine balance seriously affecting both physical and mental development, which, if

capable of early diagnosis and treatment, might enable some imbeciles to attain a fair, if not average, degree of intelligence.

The cases 1, 2, 3, 4, 5, 8, 14, 15, 17, 18, 23, 26, 27, 28 and 29 of our series are congenital or of early development, and show evidence of glandular irregularity.

Their condition in the present state of knowledge cannot be diagnosed until there is structural deformity or want of mental development. Did it lend itself to an earlier diagnosis their future outlook might be very different.

The glandular influence on physical development and structural change is better understood than is its influence on the mental development. The large formation, with its increase in bone growth of acromegala and its opposite condition of dystrophia adiposa genitalis, is well known, as also is the difference in the conformation of a myxoedemic and a case of Graves's disease. The changes in an animal after castration, both in character and structure, and the eunuchoid condition due to lack of secretion of the interstitial testicular cells, and the changes in the secondary sex characters and the early sexual development due to lesions of the suprarenal or pineal, present no difficulty in recognition.

FEEDING OF TADPOLES AND GUINEA-PIGS WITH GLANDULAR EXTRACTS.

The tadpoles were taken from the pond when about two weeks old, and, as near as possible, were selected of the same size. They were fed every morning with a tabloid of the respective glands. They had no other food except bread-crumbs and water-weed, but this was a mistake, as it would have been better to have given them some animal food, as the controls received none, while the others did in the gland. The fact that the controls did not develop detracts from the value of the observations, but the results obtained from the gland-fed tadpoles, compared with each other, may be of some interest. The tadpoles were taken on October 27th and put into separate bowls, and fed upon thyroid, parathyroid, thymus, didymin, suprarenal, anterior pituitary, and another lot received no gland.

Those fed upon thyroid were all dead by November 19th. They were extremely small, in fact no bigger than on October 27th; they had four legs, and their tails were nearly absorbed before dying. Some day or two before they died they would suffer from syncopal attacks, would swim very quickly round the bowl, suddenly turn on their backs, and drop to the bottom of the water, where they would lie as if dead for ten minutes or more, and then get up and repeat the performance.

Those fed on thymus were, on November 15th, four times as large as the controls; one had hind legs, another none; they were pale in colour and translucent. By December 12th three had died. One had changed into a frog and escaped. The others were large tadpoles, with small hind legs; their bodies were of more triangular shape than those fed with other glands, and they were more translucent. By January 12th three were still tadpoles with hind legs and no fore-legs. One had a hæmorrhage into his abdominal cavity, and was so transparent that his heart could be seen beating and his viscera could be distinguished. That thyroid feeding hastened metamorphosis and retarded growth of tadpoles, and that thymus has the reverse action, causing the tadpoles to become of abnormal size, was pointed out by Gudernatsch (2).

Of the others, those fed with parathyroid remained very small, and by January

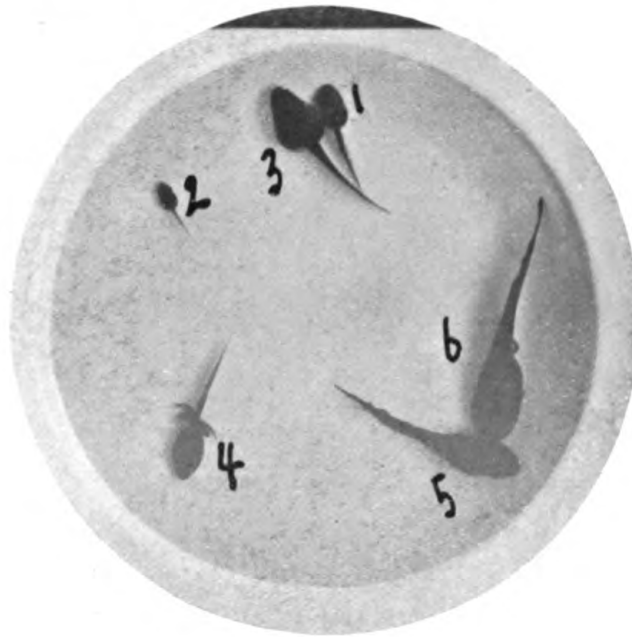


FIG. 1.



FIG. 2.

1. Control. 2. Parathyroid. 3. Thymus. 4. Didymin.
5. Suprarenal. 6. Anterior pituitary.

To illustrate paper by Mr. GUY P. U. PRIOR.

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12th there were still several tadpoles not much bigger than at the commencement. One had become a small frog by December 18th, and died two days after. By December 30th two more had become frogs, and were also very small, dying almost immediately.

Those receiving didymin were the most inconsistent. Some had become frogs by December 12th, and quickly escaped. By January 12th one was very large, pale and translucent, and of the shape of those that had received thymus, and others were darkly pigmented and with hind legs.

The suprarenal tadpoles were more forward with their legs than any of the others except the thyroid, and were also darker in colour. They were of more slender build and their limbs longer and finer than the anterior pituitary ones.

The anterior pituitary tadpoles showed the most definite changes, though these were not uniform. On November 19th it was noted that they were much larger than any of the others. On November 25th two were of extreme size, with very long, thick tails, no legs, and their companions had small, thick legs and abnormally large bodies. On December 18th five survived—three frogs and two tadpoles; these latter were the largest and heaviest of the collection. The frogs were also larger than the others, the legs being shorter and thicker and the skin markings more distinct.

By the end of the time of our observations none of the controls had changed into frogs, though some had hind legs. They were smaller and more backward than any except the parathyroid, of which they were about three times the size. The lack of animal food in their case may have kept them back. On December 18th the largest tadpole in each bowl was weighed, with the following results: Control, 1,220 mg.; thymus, 3,330 mg.; parathyroid, 900 mg.; didymin, 2,320 mg.; suprarenal, 4,106 mg.; anterior pituitary, 5,520 mg. Fig. 1, taken in January, shows the relative size of the tadpoles at this time. Fig. 2, taken at the same time, shows the most advancedly developed. It will be seen how much larger the anterior pituitary tadpoles are than the others and the undeveloped condition of those being fed with parathyroid. It is, of course, impossible to draw any definite conclusions from these observations, but they bear out the observations already made upon thyroid and thymus feeding. It also seems that parathyroid delays both metamorphosis and growth and that suprarenal stimulates both, but without the far departure from normal caused by anterior pituitary, which stimulates growth and causes bone changes.

In reference to a paper by McCord and Allen on feeding tadpoles with pineal gland they found a marked reaction of the pigment-cells, so that in thirty minutes those of the pineal-fed tadpoles were much larger than the controls. (3)

We have also made feeding observations upon guinea-pigs. The does were fed with the gland the day their young were born, the mothers being removed a week later and the young continued to be fed with the gland for from five to six months, their weight being taken weekly and the time of reproduction noted. Where several guinea-pigs in the same pen have grown at about the same rate only one is recorded; where there has been much difference two are shown on the chart. The controls steadily increased throughout. Those fed on thyroid lost weight towards the end and never grew to the same degree as the controls, and were all the time of thin, sickly appearance. One, when a month old, fractured a leg from unknown cause, but disturbance of his calcium metabolism may have had something to do with this. The parathyroids, for a time, remained stationary and at one time lost weight, but at the finish were as heavy as the controls. Those fed on thymus, whole pituitary, anterior pituitary and suprarenal developed about normally except that the last two did not reach to within two or three ounces of the controls. The pigs taking didymin were much inhibited and those taking varium were inhibited to a lesser degree. In these two pens no buck was born; the effect of the feeding applies only to does. A buck was put in with them when they were a few weeks old, but as they were not fed from the first with the gland a record of them was not kept. The pineal pigs grew very slowly for the first five weeks, but by the twenty-second week were well up to the normal.

At the end of our observations the young guinea-pigs varied in age from 22 weeks to 28 weeks. They normally reproduce at from five to six months. (4) Our control was 23 weeks old and was in young. The parathyroid had one young when 22 weeks old, the whole pituitary one at 24 weeks, and the anterior

pituitary one when 20 weeks old. The pineal doe at 25 weeks was heavy in young. The pineal pigs had long, straight and silky hair such as we do not remember seeing before in a guinea-pig, but we cannot say that this was the result of feeding and not of breeding. In the thyroid at 22 weeks, thymus at 25 weeks, suprarenal at 23 weeks, didymin at 25 weeks and varium at 27 weeks there was no pregnancy. It is stated that animals fed upon extracts of the glands strike a fresh balance of glandular activity after a time and no great change is brought about by such feeding. The results are also said to differ with the age at which the animal is commenced to be fed.

The thyroid is the gland about which most is known as to its relationship to the mind. A myxœdemic patient is depressed, dull, slow in thought and action, with diminished reflexes, often with hallucinations of hearing due to the swelling of the aural mucosa or of central origin, and not rarely finds her way into a mental hospital, where she is generally found to be a melancholic and irritable patient, indifferent to her surroundings, idle and without interests, with a more or less marked degree of dementia. Case 16, referred to in detail later, was such a one.

In cases of hyperthyroidism there is the reverse mental picture. She is often of cantankerous disposition and ever ready to take offence, but she thinks and talks quickly, her movements are rapid, and her energy abundant. Should she become insane, she generally suffers from acute or subacute mania unless the condition passes from hyper- to hypothyroidism, when the condition becomes one of melancholia.

Of the congenital mental conditions accompanying diseased states of the thyroid we have cretinism—sporadic and endemic—Mongolism and infantile myxœdema. With these there may be all degrees of weak-mindedness—from the most extreme idiocy to a high-grade imbecile. Mongolism is probably not entirely an athyroid condition and does not improve to any extent with thyroid treatment, though Case 17 livened up after receiving thyroid in small doses for some months, while her hair-growth also improved somewhat.

Cretins and infantile myxœdemics make great improvement with thyroid therapy. McCarrison records the case of a cretin, æt. 9, who could neither walk nor talk, but who, after treatment with thyroid, was able to walk, and learned to say a few words. (5) As a rule the earlier the treatment is begun the better the result.

The mental symptoms of an adult myxœdemic are greatly improved, if not cured, by taking thyroid. Hertoghe says that nerve-cells are not destroyed in myxœdematous infiltration, but become infiltrated and depressed, and that transmission of impulses, though delayed, is not abolished. (6)

The thymus gland has some influence upon mentality. Sajous states, "Removal of the thymus in dogs is followed by clear evidences

of idiocy (Morel). The thymus was present in all of 61 autopsies performed by Katy on mentally normal children. In 28 mentally weak children examined by Bourneville it was absent. In another series of 408 autopsies on non-myxoedematous children of from one to five years of age the thymus was present in only 104 cases." Sajous attributes this to the presence of thymus being necessary for the proper carrying out of the phosphorus metabolism, which is important for the development and maintenance in health of nerve-tissue. (7)

In our series of 46 *post-mortem* examinations from which the glands had been taken for examination, 25 cases had a definite thymus gland. Twenty-three of these were confirmed by microscopic examination, and 6 were not sectioned. Among these 46 cases were 32 epileptics, 22 of these latter having the thymus present, of which 18 were sectioned and examined with the microscope. The largest glands were found among the epileptics. Eight epileptics were cases of sudden death, 7 being under our care, while 1 of great interest was from a neighbouring hospital, and at whose autopsy we were allowed to be present. All these cases had enlarged thymuses. Two may be described as being as large as the palm of the hand; of the others, one weighed $3\frac{1}{2}$ oz., another 2 oz., and a third $1\frac{1}{2}$ oz. The youngest of these 8 patients was 20 years and the oldest 53 years. Two of them were found dead at night, having been seen previously to within half-an-hour, and both having been in their usual health the day before. One was Case 5, to be described later under the apituitary cases, where a description of his glands will be found. Case 31, the other patient who was found dead, was of eunuchoid type, an imbecile and a sexual pervert, whose epilepsy had commenced at 15 years of age, and who was 22 years at the time of his death. He had a very large thymus, reported to be a persistent infantile one. The suprarenal, both cortex and medulla, showed degenerative changes.

Case 32 was *æt.* 46. His epilepsy had commenced ten years previously. He died immediately after taking a fit—the third within eight hours. An attendant was standing beside him at the time. A *post-mortem* examination was made, and the heart, lungs and kidneys were found normal. There was a considerable amount of thymus tissue, reported to be very vascular and of a regenerative type. The suprarenals showed degenerative changes, both of cortex and medulla. The thyroid showed vesicles small and irregular, the lining epithelium cubical and actively proliferating. The intermedial tissue was increased and the blood-vessels congested. The pituitary was in a condition of over-activity. There was a small and normal parathyroid.

Case 33 was a girl, *æt.* 25, an epileptic of ten years' duration. She did not have an epileptic attack on the day of her death, but after going to bed became very restless, wandering about the dormitory. On

being put back to bed by the nurse, for the third time, without any resistance or struggling, she collapsed and died. An autopsy was made nineteen hours after death. There was slight active tuberculosis of both lungs. The heart was soft and flabby; the aorta was small, admitting only one finger. There was thymus tissue present: it was reported to be a retrogressive infantile one, and to contain numerous Hassall's corpuscles and also particles of lime. The ovaries were fibrotic, and the vessels in process of obliteration. The spleen contained numerous small hæmorrhages. The pancreatic cells were shrunken and very few islets were to be seen. The suprarenals were reported to be normal.

Cases 34, 35 and 36 all died shortly after taking a fit, and were under different observations at the time of their death. Case 34 was a man, æt. 20; was heard at night by an attendant to be in a fit, and was in the convulsion when the attendant went to him, but died immediately the convulsion had ceased. A *post-mortem* was made six hours after death and there was venous engorgement of all organs. The thymus was much enlarged. In this case also the aorta would only admit one finger, otherwise the heart was normal. The report on his glands stated that the thymus was of persistent infantile type, that the testes showed interstitial fibrosis and diminished activity, that the thyroid was quiescent, there was advanced vacuolation of the suprarenals, and that the section of the pituitary showed an effusion of serum into the pars intermedia.

Fig. 3 shows a thymus of infantile type. Note the dilated capillaries and large Hassall's corpuscles.

Fig. 4 shows a thymus of a regenerative type showing small masses of fine thymic tissue containing Hassall's corpuscles scattered through the fatty areolar tissue.

Case 35 was æt. 31 and had suffered from epilepsy since he was twelve years of age. He had had five fits the night previous to his death, and three on the afternoon on which he died, dying immediately after the last. Before this he was conscious and fairly well. An autopsy was held eighteen hours after he died. The heart was dilated, the muscle being flabby; the aorta would admit two fingers through the orifice from above. The thymus weighed $3\frac{1}{4}$ oz., the thyroid 1 oz. and the spleen 6 oz. From the microscopical examination of the glands it was stated that the thymus was a persistent infantile one, that the testicles were normal, also the pituitary and spleen. The thyroid was of increased, and the pancreas of diminished, activity. Of the suprarenals, it was stated that the cortex showed advanced degeneration and that the medulla stained normally, but was intensely congested.

Case 36 was a male patient, æt. 53 years, 6 ft. $3\frac{1}{2}$ in. in height, and deficient in secondary sex characters. He had suffered from epilepsy

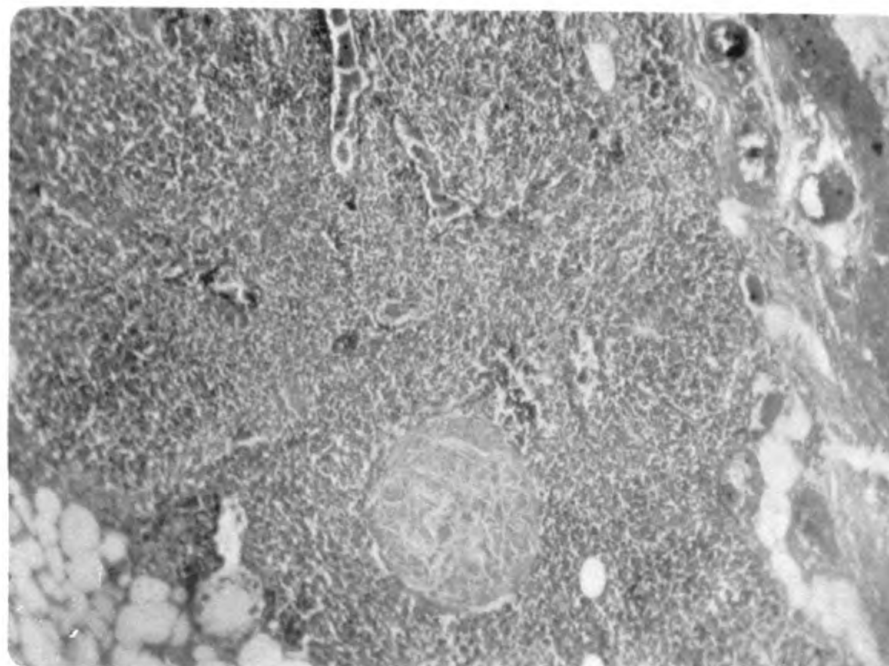


FIG. 3.—Thymus. $\times 80$. Infantile type.

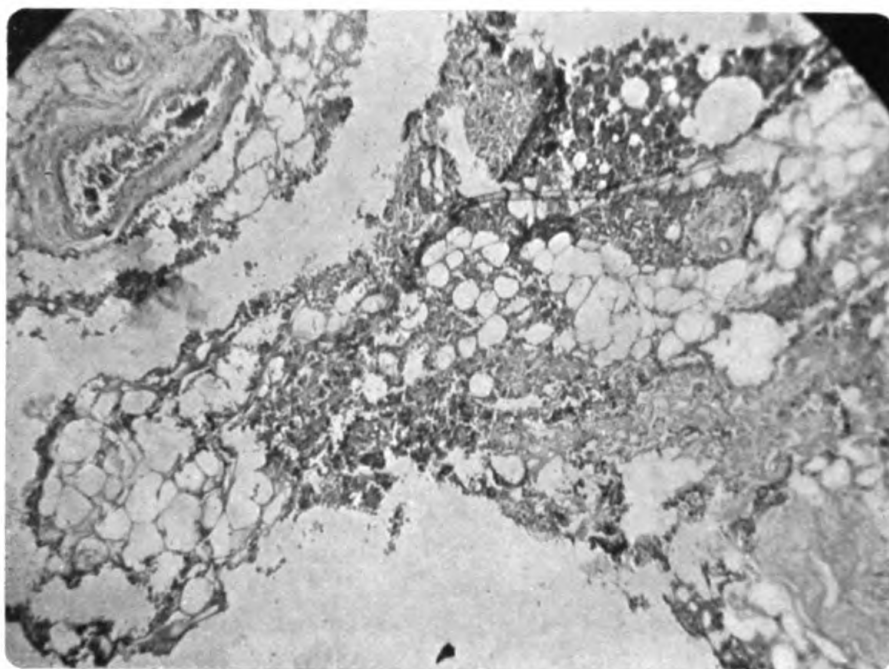


FIG. 4.—Thymus. $\times 80$. Regenerative type (epilepsy).

To illustrate paper by Mr. Guy P. U. Prior.

for many years. He had eight fits within half-an-hour, and did not recover consciousness between them. He was being given a soap-and-water enema when he collapsed and died, before the enema had acted. A *post-mortem* examination was made twenty hours after death. The body was very fat and the skull very thin. The brain weighed 48 oz., and the ventricles were moderately dilated. The heart weighed 14½ oz. the aorta being normal. The spleen weighed 6½ oz., the thyroid 2 oz., and the thymus 2 oz. The two suprarenals together weighed 1½ oz. The pituitary was large, the sella turcica being broad and deep. The pineal gland was noted as being large. This is one of the cases in which the thymus was not sectioned. The thyroid was over-active, the pituitary and testicles normal, and there was fatty infiltration of the liver.

Case 37 died four hours after being given an injection of typhoid vaccine. He was *æt.* 30 and an epileptic since early childhood. A few minutes after receiving the vaccine he had a rigor and a little later his temperature rose to 105° F., and he died within four hours with signs of acute pulmonary congestion. He had not at this time had any fit. The *post-mortem* examination was made twenty-three hours after death. The brain was found slightly congested, the sella turcica was small and shallow, the posterior processes were bent forward, and the pituitary was smaller than normal. The heart was dilated, the muscle flabby, the aorta small, admitting two fingers. The lungs were acutely congested. The thyroid was large, the thymus weighed 1½ oz., the pancreas was acutely congested, and the liver and spleen were also congested. The following is the report of the microscopical examination of his glands: The thymus of persistent infantile type. The suprarenals—the cortex exhibits well-marked vacuolation. The testes normal. The pancreas showed extremely acute congestion—the alveoli and islets were disorganised. The brain showed nothing abnormal except extravasation of blood-cells from small capillaries. The heart-muscle appeared normal and the kidneys intensely congested. This man had received typhoid vaccine twice previously, at two-yearly intervals. He had been trephined, operated upon for appendicitis, also received “606” intravenously three times.

Taguchi records the case of a healthy man, *æt.* 57, who died within an hour of receiving 1 c.c. of typhoid vaccine. On *post-mortem* examination evidence of *thymus lymphaticus* was found (8). All our 7 patients above described, together with others who have evidence of enlargement of the thymus, have been given typhoid vaccine without ill-effects. Case 36 had many opportunities of dying suddenly, in ways common in *status lymphaticus*, and why these causes should act at one time and not another, it is not possible to say.

The ductless glands in epileptics show a far departure from the

normal. Including the 8 cases of sudden death, we have made *post-mortem* examinations and sections of some or all of the glands upon 32 epileptics, of which 20 were male patients and 12 female.

Of the male patients, 15 had enlarged thymuses, and in 5 the gland was not present.

The suprarenals showed degenerative changes in 15 cases, were found to be normal in 3, and in 2 they were not examined. The changes in the suprarenals were mostly found and more marked in the cortex. The cells of the cortex failed to stain, the nuclei stood out well, but the cytoplasm was coarsely granular or represented by a fine network enclosing clear spaces. In 4 cases the degenerative changes were well marked in the medulla as well as in the cortex.

The testes from 4 patients were not examined; from 12 they were found to be normal, and from 4 there was a deficiency in the interstitial cells, one of these being Case 5—an apituitary one.

The pituitary showed no constant change in 11 cases; it was either normal or of slightly increased activity. In 5 cases it was not examined, in 3 it was stated to be of diminished activity, and in 1 case, dying suddenly, there was a serous effusion into the pars intermedia.

The thyroids were mostly of the two types, 6 being taken as being quiescent and 7 as of over-activity. These we equally divided, there being 7 of each in our series; in 4 cases the thyroid was normal, and twice it was not examined.

The pineal was only examined twice. In one case it showed degenerative changes and in the other it was normal.

The liver was examined from 10 patients. Once it was found normal; all the others showed signs of fatty degeneration or fatty infiltration.

The pancreas was reported upon from 8 patients. In 3 it was normal; in the other 5 the islets of Langerhans were few in number and showed degenerative changes.

The spleen was examined from 7 patients. From 1 case it was reported normal, in 1 there were small hæmorrhages, in 1 waxy degeneration; the rest showed fibrotic changes.

In the 12 female cases an enlarged thymus was found in 7 cases, the condition being confirmed by the microscope in 6, in 1 case not being sectioned. The gland was absent in 5 cases.

Of the ovaries, in 1 case these glands could not be found at the *post-mortem* and were presumably congenitally absent, in 3 cases they were not examined, and in 8 cases the fibrous tissue was much increased and the organs were shrunken and atrophic. In 3 instances small Graafian follicles were seen.

The thyroid in 4 of the 12 cases was not sectioned; in 2 it was stated to be normal, in 5 showing signs of over-activity, and in 1 case of under-activity.

The pituitary was normal in 9 of the series, said to be of minus activity in 1 case, and was not examined in two.

The suprarenals were normal in 5 cases, showed degenerative changes in 6, and were not examined in one case.

The pancreas from 6 cases was examined. In 2 it was normal, and in 4 the same degenerative changes were found as described in the male cases.

The spleen from 4 patients was examined, 1 being normal; 2 showed fibrotic changes and 1 was the subject of waxy degeneration.

The liver was examined from 9 patients. Once it was found normal; the other 8 had fatty degeneration.

What strikes one as most worthy of note in these results is the large percentage of cases in which the thymus is found to persist, and the great number of times in which there is found degenerative changes in the suprarenal cortex. That the liver, spleen and pancreas are seldom reported to be normal is suggestive, but the number of times these organs have been examined is not sufficient to say that changes are constant. The fibrotic and atrophied ovary appear to be almost invariably present, and the fact, as we have shown, that the menstrual function is most irregular in epileptics (9) may depend upon this. A corresponding change is not found to the same persistency in the male sex gland.

Kajima describes similar ovarian changes as we have found in epileptics in two cases of dementia præcox, but he found no testicular changes. (10) Writing on the Abderhalden reaction, Orton says that the majority of dementia præcox cases react against brain or sex-gland, or the two combined, showing a dysfunction of this gland. (11) Dr. Kate Hogg, in an unpublished paper written ten or twelve years ago, claims to have found changes in the uterus or ovaries in 21 out of 30 cases of dementia præcox examined. She came to this conclusion from pelvic examinations made under an anæsthetic. She describes the ovaries as being sometimes atrophic, sometimes subject to fibroid degeneration, and sometimes as hypertrophied with loss of function. She concludes the paper by saying, "A condition exists which indicates the unfitness of the organism to reproduce its like, which is the final phase of degeneration." It would appear from the condition of the epileptics' ovaries that also in them Nature is endeavouring to eliminate the unfit.

Over-activity of the thymus has been described as causing eunuchoid-like growth, *i.e.*, tall individuals with long bodies and long limbs, and deficient in secondary sex characters. Bandlier (12) and Sajous (7) both speak of an infantilism as being due, among other causes, to a persistent thymus. Among our *post-mortem* cases, in which we have found a large and active thymus, have been men of 6 ft. or over as Cases

31, 36 and 38, the first 2 being of eunuchoid appearance, others being of all degrees of size and weight, including two dwarfs as cases 5 and 18.

There are, in the series, three other cases not epileptics in whom an enlarged thymus was found. Unfortunately only one of the three glands was sectioned, this being from Case 18, which is described under the cases; her thymus was a persistent infantile one. Of the remaining two, one was from an imbecile lad of 18 years, who died from pulmonary tuberculosis. His thymus weighed 2 drachms, thyroid 6 drachms, spleen 6 ozs., heart 8 oz., with an aorta that would only admit one finger. The other was from an old lady æt. 73, who died from intestinal obstruction. Her adiposity was rather in excess, and the hair on head and pubes very scanty. At the *post-mortem* a cyst of the pituitary was found, the pineal and thyroid were small and some thymus tissue was present.

Diminished suprarenal activity may be accompanied by mental symptoms. Acephalic monsters are said to have no suprarenals. It is stated in Osler and Macrae that "hypoplasia of the suprarenals" has been noted in the hemicephaly and other failures of brain development. Czery reports absence of medulla in 5 cases of hydrocephalus, and Hanseman 8 cases of anencephaly with atrophy. They described the mental symptoms in Addison's disease "as a tendency to fatigue from mental or physical exertion. Constant apathy associated with depression, insomnia or an increased tendency to sleep. Yawning, loss of memory, delirium, dizziness, tinnitus and headache." (13) Falta says that in the later stages there may be delirium, convulsions and coma. (14) An over-action of the suprarenals in either sex is manifest, by an increase in male sex characteristics and in the female with amenorrhœa in addition.

"Wiesel believes that the *status thymico-lymphaticus* is equal, or almost equal, to the chromaffin tissue in the pathogenesis of Addison's disease. He suggests that adrenal inadequacy prevents the involution of the thymus, the lymphatic glands undergo hyperplasia, the vascular and genital systems hypoplasia." (15) If this is so it explains the common association in epileptics of over-active thymus glands and under-active ovaries and degenerative suprarenals.

Extracts of ductless glands of late have been found of service in a wide variety of diseases and disorders. It is an extremely old method of treatment. Harrower mentions Egyptian writings of about 500 B.C. in which orchitic substance is advocated for the treatment of impotence. (16) Probably the first reference to organotherapy is in the *Apocrypha*, where Tobias is commanded by an angel to take the heart, liver and gall from a fish. The heart and liver were to be changed into smoke and used as an inhalation for the purpose of driving away evil spirits.

The gall was useful to anoint one who suffered from "whiteness of the eyes." (17) This was written between 625 and 700 B.C., but it is our purpose to limit our remarks upon the use of these glands to our own experience, which has been mainly with epileptics and primary dements. The glandular treatment of mental cases has its definite uses without doubt, and it is certain that the scope of this usefulness will be greatly extended with larger experience of their use. A patient may be not far removed from idiocy, or apparently advanced in dementia, and may, by appropriate administration of gland extracts, be rendered quite unrecognisable from what he was, and who can say but that if treatment could be undertaken much earlier, some congenital deficient might be saved from being classed as such?

We have found thymus useful in epilepsy in some cases, but, as in all things in epilepsy, it appears harmful in others. One case, which has been taking thymus for some years, averages many more fits if this is suspended for a time, and takes some months to fully recover the ground lost when the gland is resumed. Thymus causes a retention of calcium, has some control over the formation of acids, and is largely concerned with the phosphorus metabolism, by any of which means it may influence epilepsy. We have also found thymus useful, as regards both sexes, in cases of increased sexual irritability; here it probably acts by diminishing ovarian, thyroid, or pituitary secretion; an over-action of any or all of these will excite the sexual organs.

Thyroid, in addition to its well-known action in cases of athyroidism, has been proved of extreme benefit in cases of primary dementia, chiefly those of hebephrenic type. When given as advised by Drs. Davidson and Johnson (18)—*i.e.*, in rapidly increasing doses up to 80 gr. *per diem*—remarkable results have been obtained. The authors do not say how the changes come about and many of the cases cured are certainly not of the athyroid type, and it is probably not the thyroid *per se* that does the good. Thyroid is a stimulant to most of the other glands, especially of the sex-gland, which has been shown to be often of diminished activity in primary dementia; it also stimulates the suprarenals and pituitary, and it is likely that in this way the beneficial results are brought about. This mode of treatment is not altogether safe, as it may light into activity an undetected and unsuspected tubercular lesion. Smaller doses of thyroid combined with suprarenal and perhaps sex-gland may in some cases bring about the same result, as is instanced in Cases 14 and 21.

Suprarenal combined with thyroid has been of great use in the cases just mentioned. We think the partial disappearance of the oedema in Case 30 must be attributed to adrenalin; the doses given were large and long-continued and there were no persisting toxic symptoms. It has been of value in some cases of epilepsy of asthenic type and in

some old cases of alcoholic origin. It appeared to be of special value in Case 61, who was a lad, æt. 9. Six years previously he had been given a dose of diphtheria antitoxin because there was diphtheria in the family. Two months later epileptic fits commenced; the attacks for the first four or five years averaged from five to seven a week. For eight months before admission he had from fifteen to forty attacks daily—mostly minor ones—but had an occasional major attack. On admission he was mentally fairly bright and he had several scars on the back of his head from falls. He had a well-marked white dermographic reflex; the hands and feet were bluish and cold, otherwise the physical signs were normal. In the first month after admission he had 562 fits, would lose consciousness and fall if not supported, but did not often convulse. He was given suprarenal gr. v daily and bromide and calcium. He had 303 attacks during the first month of treatment and eleven during the second month and has had none since, now twelve months. During the first three months he gained 14 lb. in weight.

We have found parathyroid very useful in some epileptics and in some its continued use seems necessary for their well-being. One of our cases, while taking this together with bromide, had but one fit a month, and without the parathyroid the number of fits rose to seven or eight a month. This gland has proved useful in all cases of myoclonic epilepsy in which we have used it.

We have entered into the uses of pituitary when describing apituitary epileptics, but we have not given it an extended use in other mental cases. We gave it with calcium to two primary demented with prolonged periods of amenorrhœa with the idea of stimulating the ovarian function. One of these girls menstruated after a month's treatment, the other after several months. Both made considerable physical improvement, but neither improved mentally.

We have had some cases of temporary—but no lasting—benefit from varium and didymin.

Cases 1, 2, 3 and 4 are all epileptic patients of apituitary type. Cases 1, 2, and 4 are about 5 ft. 2 in. in height and weigh from 13 st. 11 lb. to 13 st. 8 lb.; Case 3 is 5 ft. 5 in. in height and weighs 12 st. 9 lb. Cases 1, 2 and 3 show deficient growth of body and face hair, their maxillary hair is absent or extremely scanty, the hair about pubes is of effeminate formation and there is no hair growth otherwise upon the body or limbs. In Case 4 there is a more abundant hair growth both on face and body. In all four the mammary glands are large and pendulous, the hands and feet are rather small and clubbed, the genital organs are undeveloped, the supra- and infraclavicular spaces are obliterated and the fat distribution generally is as in the female. Their blood-pressure is rather low, the highest in the standing position being 115 mm. Hg. in Case 1 and the lowest was 95 mm. Hg. in Case 2. In their dermographic reaction Case 1 gives no reaction; 2 and 4 show a distinct white reflex, continuing for seven minutes in Case 2 and for three and a-half minutes in Case 4.

Of their blood examinations Case 1 gives an average of 7,800 leucocytes per c.mm., with a differential count of polynuclear leucocytes 71 *per cent.*, large mononuclear

cells 5 *per cent.*, small mononuclears 24 *per cent.*, hæmoglobin 90 *per cent.* Case 2 gave an average leucocyte count of 12,000, of which the polynuclear leucocytes were 64 *per cent.*, large mononuclears 5 *per cent.*, and small mononuclears 31 *per cent.*, a hæmoglobin content of 80 *per cent.* Case 3, leucocytes averaged 11,300 per c.mm.; the polynuclear leucocytes were 74 *per cent.*, large mononuclears 4 *per cent.*, small mononuclears 22 *per cent.*, hæmoglobin content 80 *per cent.* Case 4, leucocytes averaged 10,500 per c.mm., with polynuclears 76 *per cent.*, large mononuclears 8 *per cent.*, and small mononuclears 16 *per cent.*

Falta, in describing the blood condition found in apituitarism, says the red-cell count is slightly reduced and hæmoglobin about normal. Leucocyte count often reduced, sometimes increased. Of the differential count he says that the neutrophilic cells are reduced and the mononuclears, especially the small, are increased (19).

Cushing states that there is in these cases a low temperature, which can be raised by an injection of pituitary extract (20).

In Cases 1 and 2 the temperature was taken twice daily for four days. In Case 1 it varied between 97·4° and 98·2° F. On the fifth day they both had an injection of pituitrin. Four hours after the temperature in Case 1 registered 98·6° F. The temperature of Case 2 varied between 97·4° and 98° F., the latter being recorded only once. He rose to 98·2° F. four hours after the injection.

Although these four patients are by their general make-up and contour typical of apituitarism, and the fact that they are epileptics rather bears out the diagnosis, for this disease is often accompanied by epilepsy, the results of examinations of their metabolic processes is not altogether consistent with this.

Falta says that in hypophysial dystrophy the carbohydrate assimilation limits are raised and that there is no inclination to glycosuria, but, on the contrary, an abnormally high tolerance to carbohydrates; he states that Cushing found an abnormally low amount of blood-sugar. In two cases mentioned by Falta the amount of blood-sugar was normal. He obtained no sugar urinary reaction after injections of adrenalin (21).

Our four cases gave a glycosuric reaction in their urine after an injection of m x of adrenalin. On a second occasion Cases 1 and 3 were given an injection of m v of adrenalin and their blood-sugar examined before and two and a-half hours after the injection. Case 3 showed a trace of sugar in his urine before the injection and a large amount after. His blood-sugar was '11 *per cent.* previous to the injection and '14 *per cent.* two and a-half hours after, both being greater than would be expected in a case of this type. Case 1 gave no urinary reaction to this lesser dose of adrenalin, but his blood-sugar rose from '1 to '12 *per cent.*

Case 3 was found to have a persistent glycosuria, which varies from a slight trace to '37 *per cent.* His blood-sugar in ten estimations varied between '13 and '21 *per cent.* His glycosuria rose after a fit in all times observed but one. On five examinations his urine was found to be free from sugar; on four occasions this immediately preceded a fit, and the fifth time was after a fit. The changes in his blood-sugar apparently bore no relationship to the epileptic attacks. His general condition is good; he has no polyuria. Twenty-four-hour specimens having been collected for fifty days, during which time the largest amount passed being 1,278 c.c., there generally being in the twenty-four hours between 500 and 800 c.c., with a specific gravity in the neighbourhood of 1,020. No glandular treatment influenced the daily quantity of sugar. He was given pancreatin under the idea that the pancreatic secretion might be deficient; he also received pituitary and thyroid without benefit to the glycosuria or epilepsy. The glycosuria is easily controlled by diet.

Case 5 was a case of similar kind except that he was more dwarfed and fatter, showing the same physical conformation and very undeveloped genital organs. He was *æt.* 28, and died suddenly shortly after taking a fit and without any apparent cause that could have been thought sufficient to cause death. A *post-mortem* examination was made about twelve hours after death. The brain showed nothing appreciably abnormal, the sella turcica was ill-defined and shallow, the pituitary body was very small, and the pineal gland was described as being small. The heart was small and fatty, but showed no fatty infiltration. The abdomen, inside and out, was very fat. The spleen, liver and pancreas appeared normal; both kidneys were small and lobulated like that of a horse. A persistent thymus gland was found in the midst of fatty tissue. Some of these glands were examined microscopically, but unfortunately the pituitary was lost. The testicular interstitial cells were reported deficient, the thymus to be acutely congested and the suprarenal to show signs of under-activity. The thyroid was normal.

Case 6 is one of interest on account of her history. She is a female patient, *æt.* 18, is well nourished, with small hands and feet, smooth skin, hair smooth but has been falling out for the last twelve months, pulse 80 per minute, blood-pressure 115 mm. Hg. There is a tendency to hairiness on the lower limbs, and on the abdomen there is a dark line from the umbilicus to pubis. The thyroid gland is distinctly enlarged. She had convulsions in infancy; suffered from minor epilepsy from five to fourteen years of age; at sixteen, at the time the menses should have occurred, she had a major epileptic attack, and has suffered from these at increasingly shorter intervals since. Menses appeared at twelve years of age, was always irregular, but since the recurrence of the epilepsy the periods of amenorrhœa have been longer, and sometimes persist for four months. If the period does not occur somewhere about the proper time she has epileptic attacks, which are preceded for about two days by a feeling of "illness and heaviness." Her mother has exophthalmos, and had a large thyroid removed three years ago, and which was not noticed until four years after the birth of the patient. A paternal cousin is an epileptic. The points of interest in this case are the fact of the mother suffering from glandular affection, and the fact of the menses becoming more irregular as the epilepsy became more established. This might point to the two having a common cause.

McKinnon, Johnson and Henninger, after describing alterations in the clinoid processes observed in many epileptics, say that it is probable that a moderate degree of hypopituitarism exists in all epileptics, and that epileptic attacks are probably precipitated by sudden cessation of practically all secretion from the posterior lobe.(22)

The pituitary gland has a stimulating effect upon the ovarian function, and irregular menstruation is common in apituitarism.

Cases 1, 2, 3, 4 and 5 are of weak intellect, but fairly bright, and occupy themselves usefully. Case 4 is, and 5 was, extremely irritable, and will fight and quarrel with the slightest provocation. Case 6 might be considered of normal mentality; she was smart at school, good at games, and said to be thoughtful of others, but occasionally irritable with children.

Cases 1, 2, 3 and 4 have been treated by us for epilepsy, and 6 was removed from our care to be treated by Christian science. There are several cases of epilepsy that have been reported as having been cured, or greatly benefited, by anterior pituitary extract, the doses being from gr. viii to gr. xxx daily.

Cushing mentions 13 cases of apituitarism associated with epilepsy; 7 of them presented uncinate symptoms. All of these suffered from a cerebral tumour. Two followed upon a fracture; the others were considered to be primary glandular hypoplasia. The traumatic cases did well on glandular treatment. He treated some of these cases with

whole-gland pituitary, giving as much as from 36 to 300 grains daily. They improved mentally, lost weight, and the epileptic seizures were either suspended or greatly diminished.(23) We have had no success in treating these patients either with pituitary extract or with glands that might act indirectly upon the pituitary. We have not given the pituitary in the larger doses above recorded.

Case 7 is an occasional epileptic, dull and demented, upon whom no special observations have been kept. His general conformation is much the same as in the preceding patients except that he is taller. He was not admitted to a mental hospital until he was seven years old, and was then too demented to give any reliable history; probably the failure of his pituitary action and his epilepsy are of late development, and due to arterial change in the neighbourhood of the pituitary gland.

Case 8, an imbecile lad, æt. 15, measuring 5 ft. 2½ in. and weighing 9 st. 4 lb., cannot read. He knows some letters but not others, knows figures, but cannot do the simplest addition. He is quiet and good-natured, but easily led into mischief by others more evil than himself. His general appearance is effeminate, and his palate high and narrow. In three examinations his blood-sugar varied from 12 per cent. to 14 per cent. Two hours after an injection of adrenalin *mvij* it dropped from 14 per cent. to 11 per cent. He gave no sugar reaction in his urine to five hours after the injection; he has no polyuria. In the blood-counts his leucocytes averaged 12,000 per c.mm. The polynuclears were 76 per cent., large mononuclears 6 per cent., and small mononuclears 18 per cent.

Case 9, a Greek, æt. 37, 5 ft. 6½ in. in height, weighed 16 st. 4 lb. He has vivid hallucinations of hearing and delusions of persecution. For the most part he is depressed and quiet, but subject to certain attacks of impulsiveness and violence. His genital organs are much atrophied. In this respect the photograph is not much good, as the penis is almost imbedded in fat, and cannot be recognised as such. His skin is smooth and hair-growth abundant. He is a difficult case to place from a glandular aspect, but might be considered a mixed one, in which an apituitary and athyroid action play a part, with perhaps an over-suprarenal action, accounting for the excess of hair-growth, and his blood-pressure being as high as 140 mm. Hg. In 1913 he greatly improved on the thyroid treatment, as advocated by Drs. A. Davidson and H. H. Johnson, but lapsed back after a few months, and since then it has not been possible to renew the treatment as any attempt to do so greatly accelerates his pulse. Treatment with thyroid and pituitrin and pituitrin alone has been without results.

Case 10 was a lad, æt. 13 when admitted. Two years previously he had been knocked down by a motor-car. He was unconscious for five days, and when he regained consciousness he had a double internal strabismus, and complained that he could see one object several times at once. Before the accident he had been a normal boy of gentle disposition, obedient, and generally amenable, and well up to the average at school. After recovery from the accident he became absolutely untruthful and quite irresponsible, and it was found impossible to further educate him. Twelve months after the injury he had fifteen epileptiform fits in one series. After this his mental failure was more noticeable; he would wander away and forget to return, became cruel to animals, committed male sexual practices and his memory failed greatly. He was admitted in June, 1916, was then nicely spoken and of attractive appearance, but absolutely devoid of moral sense; would thief and lie in a most pleasant and natural manner. His memory was very deficient. He had a remarkable chest development, with an expansion of 3 in. His hands and feet were rather large, and the development of his organs of generation out of all proportion to his age, otherwise he was about normal physically. About six months after admission he became less alert and less talkative. His hair, which had been fine and glossy, became coarse and thin, also his eyebrows became much finer. His skin reflex, which had been red, continuing for several minutes, changed to a distinct white, also lasting some minutes. He has, about every six months, a series of four to five fits within a few hours, which leave him mentally dull and confused for some days. Blood-counts made in February, 1917, gave an average

leucocyte number of 7,637 per c.mm., of which the polynuclears were 61 *per cent.*, small mononuclears 26 *per cent.*, and large mononuclears 13 *per cent.* Another differential count made a month later gave polynuclears 51 *per cent.*, small lymphocytes 27.5 *per cent.*, large lymphocytes 12.5 *per cent.*, eosinophiles 3 *per cent.*, large hyaline 5 *per cent.*, mast-cells 1 *per cent.* The blood-sugar ranged from .07 *per cent.* to .11 *per cent.*, and a slight trace of sugar was found in the urine one and a-half hours after subcutaneous injection of adrenalin m.vij. After receiving thyroid gr. $\frac{1}{2}$ twice daily for four months a great improvement was noticed in his condition generally; he became brighter and the memory improved, though his moral character became no better. The change in this lad followed a severe head injury. It is probable that by this injury he received damage to the pituitary body, the sexual over-development activity and perversion being explainable by an irritative lesion of the anterior lobe, the effeminate *ensemble* to a want of secretion of the posterior lobe, the symptoms of the athyroidism being secondary to those of the pituitary. An X-ray picture of his skull was taken, and it was reported to show no abnormality in the region of the sella turcica or elsewhere.

Case 11 is another apituitary patient, a woman, *æt.* 32, and congenitally weak-minded. She was at school for three years and can only read and write but little. She is 5 ft. 1 in. high and weighs 15 st. 10 lb. Her chief characteristic is her irritable temper. There is here some resemblance to an athyroid case, but her hair is thicker and more glossy, her skin is smooth and moist, and in spite of her weight she is an active worker and fairly quick in her movements. Her menstrual function is normal and regular, commencing at eleven years of age. For four months she took thyroid, gr. x daily, her weight dropping to 13 st. 10 lb. For the last twelve months she has been having from 2½ to 5 gr. of thyroid daily; while on this she is brighter mentally and less quarrelsome and her weight keeps at about 14 st., and rises to over 15 st. if the thyroid is discontinued. The thyroid acts in these cases by stimulating the patient's own pituitary gland action.

The next two cases show signs of over-suprarenal action. Case 12, an old lady, *æt.* 78 at the time of her death, was of very masculine appearance and possessed a deep male voice. She had been an asylum patient for twenty years, and all that time in a condition of chronic mania and constantly pugnacious. On *post-mortem* examination her heart was found to be enlarged and fatty, with soft muscle and atheroma of its vessels, the aorta being free from atheroma. The kidneys were cystic and granular. The pancreas was large with a great deal of fat, and no definite division between the gland and the fat. The ovaries were almost completely atrophied. The thyroid weighed 2 dr. and each suprarenal 3 dr. It was reported microscopically that the thymus showed no glandular elements. The pancreas was extensively atrophied and the suprarenals degenerated. The thyroid was inactive. Her masculine ways and appearance could be explained by over-action of the suprarenals, which had probably lately atrophied from age, and this would account for the extreme atrophy of the ovaries and the activity of the thyroid. The pancreas or suprarenals may have been originally at fault, their action being antagonistic. The patient's age was such that degeneration of all glands might be expected, so the autopsy is not of the value it would have been at an earlier age.

Case 13 is a demented epileptic of long standing. She shows fairly well-marked male secondary sex characters. Her condition may have been brought about by an over-suprarenal or a diminished ovarian action.

Case 14 is a small-headed imbecile, *æt.* 31, with an abundant hair growth over his body. He would lie about all day, could hardly be roused, would not converse, had no interests, was quite indifferent to all things, and was of faulty habits. His blood-pressure was under 100 mm. Hg., his blood-count about normal, but the small mononuclear cells were nearly as many as the polynuclear, the blood sugar was .05 *per cent.*, and there was no urinary reaction to 5 minims of adrenalin. The dermatographic reaction was white. We looked upon him as a case of over-suprarenal activity which had passed into one of under-action. He was given thyroid, from gr. $\frac{1}{2}$ to 1 daily, and an injection of adrenalin m.v-x on alternate days. This was continued intermittently for three months. The change was gradual but great. He is now lively and bright, will converse freely, is a keen card-player, employs himself usefully and has made two attempts to escape. The glandular treatment has changed him from a vegetative to an active, if not intellectual,

individual. He is probably now as of good, if not better, mentality than at any period of his existence. After improvement was manifest some estimations were made upon his blood-sugar, when it was found to vary from '05 to '16 *per cent.* In three leucocyte counts made at this time the average was 12,000, of which the polynuclears were 62 *per cent.*, small mononuclears 31 *per cent.*, and large mononuclears 3 *per cent.* He now gave a slight urinary sugar reaction to adrenalin *m x*.

Case 15 is an unintelligent woman, *æt.* 37, whose general appearance is like that of a boy of eighteen years of age. She has no mammary development, no axillary hair, and the hair on her head is thin and fine. The skin is darkly pigmented in the axillæ, around garter lines and on forearms. There is no dermatographic reaction; the thyroid and thymus are not detectable. She has never menstruated, and it is reported that her ovaries and uterus are infantile. This is a case of mixed glandular dystrophy, the ovaries and thyroid, as shown by want of physical and sexual development, being primarily at fault, though there is a general want of gland activity.

Case 16 was *æt.* 58 at the time of her death. She was admitted to Callan Park Mental Hospital in 1889, suffering from melancholia which had followed upon a short attack of mania. Melancholia has been the predominant mental symptom since, accompanied in later years by a progressing dementia. She is a typical case of myxœdema, with rough dry skin, thickening of the subcutaneous tissue, thin scanty hair, absence of eyebrows, the acute susceptibility to cold, slowness of thought and action, and general apathy. She had been taking thyroid gland for many years. It is noted that in 1894 and 1896 she was treated with this drug but that no improvement followed. In 1903 she was again treated with thyroid and with much benefit, becoming less depressed and more lively. From this time to the time of her death she was almost continuously having *gr. v-x* of thyroid daily. If this was discontinued for a short time she put on weight, became so dull and uninterested that she would not even move of her own initiative, became silent and would be faulty in habits. While taking the gland, although depressed and morose, she would dress, take food, and look after and even occupy herself. In July, 1917, she had four epileptiform convulsions in quick succession and died two days afterwards. At the *post-mortem* examination there was much fat everywhere, which made it difficult to define the limits of some of the glands, which were themselves impregnated with fat. There was very little thyroid tissue, and what there was was ill-formed and degenerate. The thymus tissue was also much degenerated; the spleen was small, weighing 4 oz.; the kidneys lobulated, otherwise healthy. The heart was fatty and the arteries very atheromatous. After microscopical examination it was reported that there was no evidence of active thymus tissue, and that the ovaries, suprarenal and pituitary showed signs of much under-action.

Case 17 is *æt.* 14 and Case 18 is *æt.* 32. Both are simple and childish, incapable of being educated, and both delight in playing with dolls. Case 17 is a Mongolian, with the hands and feet, dry skin and scanty hair of athyroidism. She has an insane inheritance. She learned to walk at seven and to talk indistinctly at nine years of age. She was very irritable and dribbled much. She menstruated at 13½ years, and at this time developed secondary sex characters and also sexual inclinations, for which reason she was removed from her home. On from *gr. ½* to 2 of thyroid daily she made improvement, she grew and gained in weight, the condition of the skin and hair improved, the dribbling habit ceased, and she became quite talkative and talked more freely and clearly. It has been possible to teach her to scrub, fold clothes, and generally help, which she does fairly well and with much pleasure.

Case 18 was of rather different type, the skin and hair being normal; the hands and feet were small, but not of the stubby formation of the former patient. She was of low intelligence, could not talk distinctly, and could understand but little of what was said to her. She suffered from attacks of tetany which were associated with the menses. She died of cerebral abscess secondary to middle-ear disease.

Case 19 was a case of gonad deficiency. The genital organs are infantile, the breasts are large and pendulous, the fat distribution is of feminine character, and there is a poor growth of face and body hair. The hands and feet are small and

slender, the pelvis large and well formed, the voice high pitched and of peculiar intonation. He was seventy years of age when his photograph was taken and was admitted seven years previously. His intelligence is very limited and his conversational powers are almost *nil*.

Cases 21 and 22 are both *æt.* 16, but have developed very differently. Case 21 is 5 ft. 4½ in. in height and weighs 9 st. 8 lb., while Case 22 is 4 ft. 8½ in. and weighs 4 st. 2 lb. Case 21 made but little progress at school but is stated to have been a good industrious girl in the house. Six months before admission she became dull and listless, and talked nonsense to herself in a muttering tone, but otherwise moped about taking no notice of anything. The menses, which had hitherto been regular, became irregular and scanty, and she is said to have lost weight. The symptoms followed upon a "heavy cold." On admission she was very dull, would repeat but would not answer questions, and was quite indifferent to her surroundings. She passed urine apparently unconsciously, wetting her bed during the night and her clothing during the day. She was well nourished, skin smooth, soft and active, hair normal, hands and feet cold and damp. The pulse was 88 per minute, and the blood-pressure was 120 when standing. The dermographic reflex was white, continuing for ten minutes. For six months she was given suprarenal gland gr. v, and made rapid improvement. She became bright and industrious and gained more than two stone in weight. Because of this gain in weight and there being no symptoms of athyroidism she was given pituitrin and varium, but continued to gain weight and weighed 12 st. 3 lb. when she left the hospital eighteen months after admission. Her mental improvement has been maintained, her mother reporting that the patient has never been so well as at present. In this case there was probably some dysfunction of the suprarenals following upon the "heavy cold," this being followed by diminished ovarian action.

Case 22 is a very dissimilar one. She has been a hospital patient since she was six years of age, and at that early age was given to violence. At the present she appears about ten years of age, speech is very imperfect, no axillary hair, mammary development is poor, and skin and hair are normal. The thyroid gland can be felt, but the thymus cannot be detected. Chvostek reflex is present. The knee-jerks are exaggerated and there is left ankle clonus. Dentition is good. Though of childish and pleasing appearance she is a most evil minx. She will attack anyone without reason or malice, will trip up or push down the old and feeble and will come up smiling and spit in one's face. She is filthy in habits, and throws faeces about her room and has not menstruated. There is no special sign of glandular deficiency. She is undeveloped both mentally and physically, the under development in this case being of cerebral origin.

Case 23 was *æt.* 18 on admission, 4 ft. 8 in. in height, and weighed 5 st. She has but little intelligence, cannot read or write, and, although expressing a wish to learn, on sending her to school it was found impossible to teach her. Physically she is undersized and undergrown; she has a peculiar growth of fine hair all over the body, with but little axillary hair. There is a line of pigment on the abdomen from the umbilicus to the pubis. The mammary development was poor on admission but had increased six months later. Her thyroid gland cannot be felt. The thymus is enlarged and can easily be percussed out. The bones are small and slender, as are the hands and feet. The skin is smooth and soft, the sweat-glands of axillæ being abnormally active. The pulse was 88 per minute. She has a slight intermittent glycosuria, which was found on testing her urine previous to an injection of adrenalin. Her blood-sugar at this time was '14 per cent.; two hours after the injection it had fallen to '05 per cent., the excretion of urinary sugar being much increased. The hæmoglobin content is about 100 per cent.; the leucocyte count averages 10,000 per c.mm., the polynuclear cells being 76 per cent.; small mononuclears 11 per cent.; large mononuclears 7 per cent., eosinophiles 4 per cent., masts and hyaline cells 1 per cent. each.

It is difficult to determine whether a thymus in this, and similar cases, is primarily enlarged, or secondarily, as either compensatory or inhibitory to some other gland. What results the enlarged thymus has upon growth and formation probably depends upon the amount of over-action, the effects upon other members of the endocrine system, and the time of life at which the enlargement occurs. This case was treated for some months with suprarenal extract gr. v and gr. ½

thyroid daily. Except that she gained 8 lb. in weight and that her mammary development has increased there has been no noticeable change.

Cases 24 and 25 are similar in their mental, but very different in their physical make-up. Case 24, who is *æt.* 14, is 5 ft. 10½ in. in height and weighs 10 st., while the other case is a year older, 4 ft. 10 in. in height and weighing 6 st. 10 lb. Both these boys had been to school, and although they had not done well, had done fairly, and had commenced to earn their own living, Case 24 on a dairy farm and Case 25 in a boot factory, and both were spoken well of by their employers. After doing well at their work for a while they each took to wandering from home and would remain away for days, seemingly doing nothing but walking the streets and sleeping in empty houses or out-houses. Each would rob their parents before starting from home, but had not been known to rob anyone else, except Case 25, who, living in an orchard district, admits taking fruit for food. In each case the thyroid could be felt, while Case 25 had an enlarged thymus but not Case 24. Case 24, whose bones were large and thick, hands and feet large, and genitals of abnormal development, might pass as one of over-pituitary action and was treated with didymin to lessen this activity. The other lad has a generally diminished glandular activity, with the exception of the thymus, which may be keeping the others in check. Case 24, in three blood-counts, gave an average leucocyte count of 10,000 per c.mm. with polynuclears 52 *per cent.*, small mononuclears 43 *per cent.* and large mononuclears 5 *per cent.* He gave a slight urinary sugar reaction two hours after an injection of adrenalin $m \times$. The blood-sugar on two examinations was .05 *per cent.* while on a third it was .14 *per cent.* This was previous to the adrenalin injection, after which it fell to .11 *per cent.* No blood observations were made on Case 25.

The two boys soon returned to their normal mentality and left the hospital after six months' residence. Case 24 has been out more than twelve months and is reported to be doing well. Case 25 was returned after being away a month, as he was inclined to wander and did not settle to work. About a month later his parents insisted on removing him to a Salvation Army home, and to us he has been lost sight of, but he should be doing as well as his companion.

Case 26 is *æt.* 18, weighs 7 st. 12 lb., and measures 4 ft. 9½ in. His hair and skin are normal, and his bones short and thick. He has a fair amount of sense, is capable of useful occupation, but has no initiative. He has no idea of the value of money, is easily led into mischief, and readily becomes a tool of others, which was the reason of his admission. This is a case approaching achondroplasia. He contrasts with the cases 27, 28 and 29, three Mongolian imbeciles, with the spade-like hands and feet, the rough dry skin, thick lips, and undershot jaws, scanty dry hair on head and deficiency of body hair. Case 29 gives a distinct white skin reaction lasting ten minutes, and passes about 3,000 c.c. of urine in twenty-four hours. His leucocytes average 6,500 per c.mm., the polynuclears being 58 *per cent.*, the large mononuclears 14 *per cent.*, and the small mononuclears 28 *per cent.* In three examinations his blood-sugar varied from .05 *per cent.* to .15 *per cent.* After an injection of $m \times$ of adrenalin his leucocytes rose from 5,062 to 24,750 per c.mm.; there was a slight rise in the blood-sugar but none excreted in the urine.

Case 28 was 5 ft. 10 in. in height, and died of colitis at the age of 45. At the *post-mortem* examination, made twelve hours after death, his brain was found to weigh 39 ounces; his heart was normal, except that the aorta would only admit one finger. There was a considerable amount of thymus tissue scattered about the mediastinum. The thyroid was small, the suprarenals were large, but were apparently mostly fatty tissue.

Case 64 is one of a peculiar *œdema*, and follows fairly exactly the description of Milroy's disease, but there is no hereditary history. She was first admitted to a mental hospital in December of 1911. Her mental condition had been diagnosed as recent mania, and moral insanity. She had been sent to a reformatory at quite an early age and at eighteen she went into service, and shortly after eighteen had a baby. In January, 1914, she was treated for retroflexion of the uterus, pyelitis and cystitis. She was subsequently treated for a double salpingitis and later a left salpingo-oöphorectomy was performed. Later in the same year she suffered from gonorrhœa. She came under our care in March, 1916, and was then in good physical health. In April of that year she complained of pain in the right hip-joint, after which for three months she persistently complained of pain in one of the joints of the right leg.

Towards the end of July the right ankle-joint was swollen and at this time it was noticed that she had a few pus-cells in her urine and some diplococci. In November, 1916, the right leg from the hip to the ankle was swollen and œdematous. The blood was repeatedly examined for filaria, but with negative results. In January of 1917 the leg was very swollen and she complained of severe headache. A lumbar puncture was performed and 17 c.c. of fluid was removed under a plus pressure. Three days after the puncture the leg was almost normal, but had returned to its original degree of œdema within the next week. In October of 1917 the left leg below the knee became œdematous. The next month the left leg and thigh were œdematous, as was the right. A silk-worm-gut drain was put into the inner surface of both thighs, but no benefit followed this, although they drained freely for a time. A lumbar puncture had been repeated once or twice but never with the same result as the first time. In February of 1918 several incisions were made into the legs, which drained freely, but they did not diminish in size. About this time numerous hard round nodules developed; they were very tender to touch. Two were removed and examined under the microscope but no lepra bacilli were found. In this month the right arm became swollen, and there was a tenderness along the course of the nerves. In March she complained of a great deal of temporal headache. Twenty c.c. of cerebro-spinal fluid were removed under increased pressure, after which the headache improved, and the legs became smaller, though nothing like normal. In April of the same year she complained of much abdominal pain and often vomited. The headaches again became severe. A lumbar puncture was repeated with relief to the headache, but it was not followed by any lessening of the swelling of the legs or arm. Injections of adrenalin $\text{m} \times$ and calcium iodide gr. xv were given into the scapular region every second day for a fortnight. The swelling in the legs became much smaller, the decrease being most marked the day after the injection. She then objected to the injections and they were discontinued. Between May and September the injections were repeated several times for about ten days or a fortnight at a time, each time with much diminished swelling of the legs, more especially the left; the thighs at one time became normal. When the œdema was diminished the patient complained of very much more pain in the legs. In October of 1918 six injections of pituitary, 1 c.c., were given on alternate days and after the second dose there was some improvement, but this was not lasting. In December of the same year the right arm began to swell—first the hand and forearm, then above the elbow. Another series of injections of adrenalin and calcium were given, the two drugs this time being given separately. The patient became resistive and the treatment was discontinued. After these six injections there was marked improvement. In January of 1919 the left arm also commenced to swell and the right became bigger still. During the next month both arms and both legs were extremely swollen, and she was unable to move any one of the four limbs. The patient now implored to have the treatment resumed, and this was only consented to on the condition that she would be treated as long as was thought necessary, and that she would take and do all things as told. She was given 1 c.c. of adrenalin, and this was repeated every second day. By February 18th the left arm and hand were normal, the right hand nearly so, the swelling of the left leg had disappeared except of the foot and ankle, the right leg was smaller, and the œdema softer, and would now pit on pressure. Always before, when patient's legs were going down, she had vomiting attacks and severe abdominal pain, but this time these were not so severe, but she complained of a great deal of pain in the limbs as the œdema diminished. In March of the same year both hands and arms were normal, and she had free use of them. The left leg was also normal. From July the adrenalin injections were continued for ten weeks. They then caused giddiness, breathlessness, and much pallor of the face, so they were reduced in frequency and amount, and afterwards discontinued. Suprarenal tabloids gr. xv and gr. i of thyroid daily were substituted. The improvement has been slow but continuous, and there has been no return of the œdema of the upper extremities. That of the lower limbs has persisted, though it has been much more variable, the degree of swelling altering from day to day. The patient's mental condition has undergone a great change for the better. She is now affable and cheerful, whereas formerly she was most morose and taciturn.

The differential diagnosis of this case is by no means easy. The patient at times

during her illness was extremely resistive both to treatment and examination, for which reason observations upon the chemistry of her blood and urine have not been made. In the earlier stages of her illness she was thought to be suffering from gonorrhoeal rheumatism, and finding diplococci in her urine supported this supposition, which could not be maintained when the leg became generally œdematous. The diagnosis then rested between an œdema of venous or lymphatic origin. No filaria could be found in the blood nor could any cause for a venous block be found. It was self-evident that the œdema was not of cardiac, portal or kidney origin, though there was often a trace of albumen in the urine. An angio-neurotic œdema was considered, but as a rule the œdema in these cases comes and goes quickly, attacking first one and then another site. Later when two and then a third limb was attacked, the case exactly resembled one of Milray's disease, which is described as an œdema which first attacks one limb, then another, until all four limbs are affected; it persists until the patient either dies from exhaustion or from some intercurrent disease. According to descriptions, the one essential of Milray's disease is that it is hereditary, but no hereditary history could be obtained in this case either from the patient or her friends, her parents having died when she was quite young, the family separated and were brought up by the State, and so no great reliance can be placed upon the family history. No pathology has been given to Milray's disease.

Edemas, sometimes persisting, sometimes very transitory and without any apparent cause, or with such insufficient cause as long standing, are not uncommon in the insane, though the pathogenesis of these have not, as far as we are aware, received much attention as yet.

We look upon this case as likely to be due to some lesion of the sympathetic nervous system. We gave her adrenalin under this idea, and the calcium because of its action upon the blood-vessels. Her blood-pressure previous to the adrenalin injections was within the normal range, nor was there any increase after the injections, even when the larger doses were being given. A sign of insufficiency of her own adrenalin system was the fact that only upon about two occasions was there sugar in the urine, even after repeated 1 c.c. doses of adrenalin. It is advised that adrenalin be not given repeatedly even in small doses, but in this case it seemed to be doing nothing but good, and the case appeared so hopeless otherwise. Her menses had been in abeyance for some twelve months, but reappeared at irregular intervals while receiving the calcium iodide and adrenal injections and continued fairly regularly while receiving larger doses of adrenalin.

My thanks are due to Mr. E. C. Wood for reading and correcting the manuscript, for aid and advice in its formation, and for typing the final copies, and also to Mr. A. Lyon, the Chief Attendant, for much help in the laboratory and in the care of the guinea-pigs and tadpoles.

[It is regretted that owing to the prohibitive cost of reproduction numerous other interesting photographs which illustrated this article could not be published.—EDS.]

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Table showing the Activity of the Ductless Glands of Epileptics as found by Microscopical Examination.
Males.

| No. of case. | Age. | Cause of death. | Thymus. | Testis. | Thyroid. | Pituitary. | Suprarenal. | Pancreas. | Spleen. | Pineal. | Liver. |
|--------------|------|--|----------------------------------|--------------|---------------|------------------|---------------------------------|--------------|--------------------------------|----------------------|---------------------|
| 37 | 31 | Fracture of skull | Active | Normal | Inactive | Normal | Inactive | Not examined | — | — | — |
| 38 | 31 | Enteric fever | " | " | Normal | " | Deficient | " | — | — | — |
| 35 | 29 | Epilepsy | Very large, persistent infantile | " | Over-active | " | " | Under-active | Normal | Not examined | Degeneration |
| 39 | 59 | Acute pulmonary congestion, post-epileptic | <i>Nil</i> | Under-active | Ditto | " | Under-active | Deficient. | Fibrosis | — | — |
| 40 | 26 | Pneumonia | Not examined | Normal | Under-active | Under-active | Normal | Under-active | — | Degenerative changes | — |
| 5 | 28 | Epilepsy | Active | Under-active | Over-active | Very small —lost | Under-active | Normal | Waxy degeneration | — | Fatty degeneration. |
| 41 | 49 | Pneumonia | Active, persistent infantile | Normal | Under-active | Under-active | Normal | Not examined | Capsules and thickened vessels | — | Normal. |
| 42 | 28 | Status | <i>Nil</i> | Not examined | Ditto | Not examined | Cortex missing | — | Fibrosis | — | Cloudy swelling. |
| 43 | 51 | Epilepsy | Active, regenerative type | Ditto | Over-active | Normal | Cortex and medulla under-active | — | Small hæmorrhage | — | Fatty degeneration. |
| 44 | 73 | Pulmonary tuberculosis | <i>Nil</i> | " | Under-active | " | Ditto | — | — | — | Ditto. |
| 32 | 40 | Epilepsy | Active, regenerative type | " | Over-active | Over-active | " | — | — | — | — |
| 31 | 22 | Epilepsy, sudden | Active, persistent infantile | Normal | Not examined | Not examined | " | — | — | Normal | — |
| 45 | 46 | Cardiac disease | Active | Inactive | Normal | Inactive | Not examined | — | — | — | Fatty degeneration. |
| 37 | 28 | After vaccine | Active, persistent infantile | Normal | Not sectioned | Normal | Under-active | — | Extreme congestion | — | — |
| 46 | 65 | Pneumonia | <i>Nil</i> | " | Under-active | Not examined | Normal | Normal | Thickened arteries. | — | Fatty degeneration. |
| 47 | 19 | Epilepsy | Active, persistent infantile | " | Normal | Ditto | Under-active | Under-active | — | — | — |

| No. | Age. | Cause of death. | Thymus. | Ovary. | Thyroid. | Pituitary. | Suprarenal. | Pancreas. | Spleen. | Pineal. | Liver. |
|-----|------|------------------|----------------------------------|--------------|-------------|-----------------|---------------|-----------|---------|---------|----------------------------|
| 36 | — | Status | Present, but not sectioned | " | Over-active | Normal | Not sectioned | — | — | — | Fatty degeneration. Ditto. |
| 48 | 62 | " | Ditto | " | Ditto | " | Under-active | — | — | — | — |
| 49 | 34 | " | " | " | Normal | " | Ditto | Normal | — | — | — |
| 34 | 25 | Epilepsy, sudden | Very large, persistent infantile | Under-active | Normal | Serous effusion | " | — | — | — | — |

Females.

| No. | Age. | Cause of death. | Thymus. | Ovary. | Thyroid. | Pituitary. | Suprarenal. | Pancreas. | Spleen. | Pineal. | Liver. |
|-----|------|-------------------------------|------------------------------|---------------------------|--------------|--------------|--------------------|-------------------|--------------|--------------|---|
| 50 | 62 | Pulmonary congestion | Active | Not found | Normal | Normal | Normal | — | — | — | — |
| 31 | 56 | Malignant disease of pancreas | Nil | Inactive, fibrotic | Over-active | " | " | — | — | — | — |
| 52 | 44 | Pulmonary tuberculosis | " | Under-active | Active | " | Under-active | Under-active | Fibrotic | — | Fatty degeneration. Fatty infiltration. |
| 53 | 39 | Status | Not examined | Fibrotic and under-active | Normal | " | Cortex and medulla | — | — | — | — |
| 54 | 50 | " | Active, regenerative | Do. | Not examined | Under-active | Cortex | Under-active | — | — | — |
| 55 | 37 | " | Not sectioned | Under-active | Over-active | Normal | Under-active | Waxy degeneration | — | — | Fatty infiltration. Do. |
| 56 | 50 | Lymphadenoma | Active, regenerative | Not examined | Not examined | Not examined | Under-active | Fibrotic | — | — | — |
| 33 | 25 | Epilepsy | Very large infantile | Fibrotic under-active | Do. | Do. | Normal | Under-active | Normal | — | Not examined |
| 57 | 31 | Status | Active | Very small fibrotic | Under-active | Normal | Under-active | Normal | — | — | Fatty degeneration. Do. |
| 58 | 46 | Enteritis | Nil | Not examined | Over-active | " | Not examined | — | — | — | — |
| 59 | 24 | Pericarditis | Active, persistent infantile | Small fibrotic | Not examined | " | Normal | Under-active | Not examined | Not examined | Not examined |
| 60 | 39 | Pulmonary tuberculosis | Present; not sectioned | Not sectioned | Over-active | " | Under-active | Normal | — | Normal | — |

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Regarding the Treatment of General Paralysis. By G. H. MONRAD-KROHN, M.D.Christiania, M.R.C.P.(Lond.), Physician to the Neurological Section of Rikshospitalet, Christiania; Lecturer in Neurology to the Royal Frederick University, Christiania.

WHEN Noguchi found spirochætes in the brain of general paralytics some years ago it seemed as if we were entering into a new era, not only in the pathological conception of the so-called “parasyphilitic” or “metasyphilitic” affections, but also in their *treatment*. In this latter respect most of us have hitherto been somewhat disappointed, and it may therefore be advisable to take up the rationale of the treatment for revision.

The reason why the usual antisyphilitic remedies are of little or no effect in these affections may be found in one or more—perhaps all—of the following possibilities:

- (1) *Either* the antisyphilitic remedies or the antibodies—the formation of which they give rise to—do not get access to the spirochætes on account of their anatomical localisation;
- (2) *Or* the spirochætes may have acquired an immunity to the antisyphilitic remedies⁽¹⁾;
- (3) *Or* the initial spirochæte affection of the cortex may have already started a vicious circle, which *per se* will lead to destruction irrespective of the spirochætes.
- (4) Finally the possibility must also be kept in mind that metasyphilitic lesions may be due to a mixed infection of spirochætes and some other microbe or microbes (*e.g.*, Porter Phillips’s diplococcus or

Ford Robertson's diphtheroid); the fact that syphilis only in comparatively few cases is followed by "metasyphilitic" affections shows us that these must be due to syphilis + *something else*, and this something else may quite well be a microbe. The possibility of this microbe "carrying on" alone after being "introduced" by the spirochæte must also be faced.

With the first-mentioned alternative in view one tried to inject salvarsan solution directly into the cerebrospinal fluid, but as this frequently led to unpleasant spinal complications, Marinesco proposed to inject salvarsanised serum into the cerebrospinal fluid. Swift and Ellis followed Marinesco's lead, and lumbar puncture, followed by injection of salvarsanised serum, rapidly gained ground as the most rational way of treating tabes. As regards general paralysis, it was felt that the intraspinal injections could be of no avail and different forms of intracranial injection methods were introduced. The most practical of these, I still venture to believe, is the one which I developed and described in *Norsk Magazin for Lægevidenskaben*, Christiania, No. 5, 1914, and in a letter to the *Lancet* in the spring of 1914 (May or June as far as I remember), also in the *Journal of Mental Science*, April, 1915. Schroeder and Helweg have also used this method with some modifications (*cf.* their interesting article in this Journal, January, 1919⁽²⁾).

I think it is too early to draw any definite conclusion from the experience yet gained. My own experience comprises but sixteen cases, and the only conclusion I feel justified in putting forth is that in advanced cases of general paralysis of the insane the proposed treatment has no appreciable effect. If in early cases it has some effect I do not yet feel justified to express a decided opinion. Several of my cases are "promising," but then the early spontaneous remissions complicate the question *post aut propter*. On the whole one cannot yet expect conclusive experience regarding the result of the treatment. At least five years' continued observations of a large number (fifty or more) of early cases will be necessary as a basis for a more definite opinion.

My object in writing these lines is therefore not to give the result of my scanty experience, but to draw the attention to the above-mentioned possibilities, of which it appears to me that (2), (3) and (4) have been neglected. If an inaccessible situation of the spirochætes as regards the antisyphilitic remedies were the *only* reason of the failure of the ordinary antisyphilitic treatment, it strikes me that we should already now have obtained more striking results from the salvarsanised serum treatment; even in advanced cases one would then expect an arrest of the disease, which I have satisfied myself one does not get. For these advanced cases I am inclined to believe in some vicious

circle having been established leading *per se* to destruction (3). The question must therefore be studied in early cases, and here the possibilities (2) and (4) must also be taken into account.

An acquired immunity on the part of the spirochætes might possibly be broken down by a simultaneous attack through different "haptophore groups"—at least experiments on trypanozomes lead us to believe so. Consequently simultaneous administration of mercury should be combined with the intracranial salvarsanised serum method. Hexamethylenetetramin (urotropin) should also be given from this point of view, and this latter modification would also help to counteract any mixed infection (4). A simultaneous treatment with antimony might perhaps also be tried. That the remedies advanced by McDonagh may help us here future experience only can decide. One must keep an open, unbiased mind, and if a number of remedies can be found which all attack the spirochæte through the different "haptophore groups," this will signify a great advance in our attempts at combating the "metasyphilitic" affections.

Finally a few words about salvarsanised serum. What is salvarsanised serum? What is its active principle? Some authors claim salvarsan itself to be the active principle; others hold that the antibodies formed in consequence of the salvarsan injection (the death of spirochætes and liberation of endotoxins) form the active principle. According to the different opinions some physicians take the blood immediately (quarter to half an hour) after the salvarsan injection; others wait twelve hours or more. As long as this question has not been decided I think it safest to take the blood half an hour after the salvarsan injection. In this way the serum will contain the *salvarsan* from the immediately preceding intravenous salvarsan injection, and with repeated injections *also the antibodies* formed in consequence of the previous salvarsan injections.

We may be—and probably are—on the right way to solve the question of treatment of general paralysis of the insane. And yet we may fail if we do not face *all* the possibilities that obtain.

(¹) If the spirochæte has a life-cycle (as McDonagh will have it), it would not be surprising to find certain phases of the life-cycle immune to the usual anti-syphilitic remedies.—(²) With regard to the modifications they propose, I shall just mention that after injection of the *full* dose of 0.9 neosalvarsan arsenic *can* be found in the blood, and anyway, it is on account of such concentration in the blood after intravenous injections that it acts on syphilitic lesions in other organs. Why should a stronger concentration be needed in the brain?

Part II.—Reviews.

My Life and Friends: James Sully, LL.D. London: Fisher Unwin, 1918. 8vo. Pp. 356. Price 12s. 6d. net.

First of all, one must commend this book as a most agreeable pastime, full of general interest, and also, from our standpoint, instructive. Your reviewer has special interest in contributing something in reference to the book, for the author and he not only belonged to the same social club, but were both fellow Sunday tramps with Leslie Stephen, and in many respects there was a strange parallel in their youthful surroundings. There was also a similarity in age.

James Sully was the son of a Bridgewater tradesman, who was an ardent Gladstonian Radical and also a Dissenter. These qualifications to a certain extent interfered with his general social life, so that the society in which the son of a Radical tradesman and a Dissenter mixed was essentially unlike the society which the majority of literary men have passed through.

To begin with, his schooling was of the most mixed kind. He was sent to various "dames'" schools, and was never at any really public school, the result being that his education was not so much by book as by observation and family relationships. He was particularly happy in his family, parents and sisters all being intelligent and earnest. The fact that he did not go to a public school and then to a classical university turned his thoughts more on to science and to general history and literature than otherwise would have been the case. Music was one of the great resources of the family, and Sully developed great taste and ability along musical lines. Later, besides taking an interest in natural science, he also took practical interest in drawing.

He began, as I have said, in the rather narrow local schools. Later he was under tutors and went in for the University of London examinations. Still later he went to German universities, where he formed many life-long friendships.

His father was particularly anxious that he should become a Methodist minister, and for many years, although he had no special religious "call" or inclination, yet he felt that it was a useful and interesting occupation, and in a calm, unattached way, to be a duty to pursue theological studies. These did not seem to upset his general faith and belief until he went to Germany, when distinctly his views were broadened or, we may say, widened, and slowly he came to the conclusion that at all events it was not his part to become a recognised minister. In many ways, therefore, he and Leslie Stephen passed through parallel mental states. Leslie Stephen became a clergyman, though he practically never officiated as such; and Sully was qualified as a minister, but did not take up the duties.

Slowly Sully's ideas passed from faith to agnosticism, and with men like Huxley and Leslie Stephen he was a follower of higher ethics and morality. Religious dogmata did not appeal to him.

Fortunately for him, his father was, at all events for many years,

wealthy and able to contribute to his education, so that he travelled far and wide and spent much time in continental schools. But he was anxious to get some work, and he began as a journalist, and through the influence of men like Leslie Stephen and Morley he secured journalistic work, and he contributed an enormous number of articles on a very large number of subjects. He did a great deal of reviewing, and one of his first independent essays was on "Pessimism." This led to a certain amount of misunderstanding, because he himself was anything but a pessimist. But the title seemed enough to rather condemn him in the eyes of certain people.

Later on he devoted much more time to the study of ethics and so-called psychology. He studied Bain, Herbert Spencer, George Lewes and W. James. He took independent views in relationship to all their writings, and himself wrote more than one book on psychology, the original idea being that the book should be a standard for examination purposes. Later, this developed into the larger work, *The Human Mind*, in two volumes. There is independence of thought and careful observation in all these works. Whatever Sully was, he was an observer and a recorder. He was not content simply to saturate himself with the ideas of ancient philosophers, or to swallow whole the philosophy of the modern French or German writers. The result has been quite an independent line of thought.

Besides these, he wrote other books, some having given him a peculiar pleasure, and certainly, to my mind, displaying the man's character much better than even his psychological writings. For instance, the book entitled *Child Studies* is simply a further evidence of the kindly child-loving nature of James Sully. He wrote also an interesting book from what might be called the emotional side, entitled *Human Laughter*.

But it is quite beyond one's power to enumerate the thousand-and-one articles, reviews and books that he wrote or contributed to. He was a most voracious reader, and owing to his literary work and his writing he suffered from a nervous breakdown and had to have a rather prolonged rest abroad. At the same time he was suffering from his eyesight, so that it became absolutely necessary for him to refrain from real brain work. He recovered completely, and it was only later that he once more went to live abroad.

He established himself at Hampstead, and at the time he was there, there were a good number of artistic, literary and scientific residents, who formed little social clubs, and it is quite evident that in those days Sully was a very social person and quite capable of enjoying good society and good dinners!

In this *Life* he refers to his neighbours, especially those about Hampstead. He also refers to their social gatherings.

He had a wonderful gift of friendship, and throughout the whole of the book it is noteworthy that there is scarcely an unkind remark about anyone. In fact, one would say there may be slightly critical remarks, but none that are really harsh. Evidently the temperaments of men like Bain and Herbert Spencer were not congenial to him. Men who were physically unfit, who suffered from indigestion, or were incapable of taking vigorous exercise, were not likely to be long friends of Sully.

I do not think I ever came across any book in which what might be called the thumb sketches of character are so well given. And when one thinks of the numbers of friends that he had made and kept, it is certainly astonishing. A considerable number of his friends, of course, were literary, but there were, besides, the scientific friends and many musical ones. He was a friend of Huxley, and Darwin; and Romanes, who died so early, was a man in whom he was distinctly interested and with whom he was sympathetic, though he failed to follow Romanes in his religious thoughts. Besides those mentioned, Leslie Stephen and George Meredith probably had the greatest influence upon his life and conduct. He worshipped Meredith from the literary and social points of view, and he admired Leslie Stephen, both from the philosophical standpoint and also for his muscularity. Sully was an athletic man, although not a powerfully built man. Yet he was good at many sports; he was an excellent swimmer, he did a considerable amount of climbing, both in England and abroad. But walking probably was the thing that interested him most, and he and I were both members of Leslie Stephen's Sunday tramps. His descriptions of the meetings of these tramps under the guidance of Leslie Stephen give a very clear idea of the kind of society that Sully sought and the society that appreciated him.

As I have said, his religious views passed from a more or less definite faith into agnosticism. Politically he was a Radical, and I suppose may be called a Pacifist. He was one of the very exceptional men in England at the time of the Boer War with pro-Boer tendencies, and ran a certain amount of risk of being misunderstood. He tried to get others of his friends to join him in some more active demonstrations against the Government, but fortunately in this he was over-persuaded. The very strongest views of liberty of thought, liberty of mind, and of absolute rectitude ruled his life from beginning to end.

As one goes on with the book one is very much struck with the tender-heartedness of James Sully. One by one his most intimate friends, like Leslie Stephen and George Meredith, Romanes, Spencer, Bain and others died, leaving him, if not alone, yet deprived of many of his old friends; and as he points out, getting on in years it is much easier to lose than to gain friends.

In conclusion, one can only say that the book is eminently worth reading, and gives, one may say, an epitome of the social life of the educated circles in and near London during the last fifty years, and leaves one in the hope that Sully's work is not yet over. He is honorary member of the Neurological Section of the Royal Society of Medicine.

G. H. S.

Syphilis and the Nervous System. By Dr. MAX NONNE. Translated by CHARLES R. BALL, B.A., M.D. London and Philadelphia: J. & B. Lippincott & Co., 1916. Second American edition, revised. 8vo. Pp. 450. Illustrated. Price \$18 net.

This volume, the second American edition of *Syphilis and the Nervous System*, is a translation of the third German edition published by Dr. Max Nonne in 1915.

In the arrangement and in the material content of the majority of the chapters the book differs little from the previous edition; the author has remained true to his profession of writing from the practice for the practice, and, as he emphasises the importance of the symptomatology and of clinical observation in dealing with the syphilitic diseases of the nervous system, the book, which is rich in clinical detail, remains much as before.

The chapters on dementia paralytica and tabes dorsalis have, however, undergone considerable modification in the light of the discovery of the *Spirochæta pallida* by Noguchi, in the brain of the parietic and in the spinal cord of the tabetic. The demonstration of the organism of syphilis, coming with the evidences furnished by the cytological and chemical examination of the cerebro-spinal fluid in cases of general paralysis and tabes dorsalis, has finally settled the long-drawn-out discussion as to the specific origin of these conditions. Nonne agrees with the English neurologists, Mott, Head and others, that "the clinical manifestations of parasyphilis are an expression of the reaction and necrosis of hypersensitised areas of the nervous system, evoked by the reappearance of the *Spirochæta pallida*"; he differs, however, from Mott's assumption that the inflammatory condition of the neuroglia and blood-vessels is a secondary effect of the primary nervous degenerations, which was his opinion before the discovery of the spirochæta in the brain. But that is not his opinion now.

He considers that the case for a specialised strain of organism with a specific affinity for the nervous system is not yet proven, and he differs, on the one hand, from the view of Nacke, that the neuropathic disposition is an important factor in the genesis of these conditions, and, on the other, from Kraepelin in his opinion as to the predisposing influence of alcohol.

It is of interest to note that Dr. Nonne is inclined to deny the impossibility of recovery in paresis. He cites the occurrence of cases "whose enrolment under the diagnosis of paresis no one would have doubted had the termination been the customary unfavourable one. The fact alone that the termination was favourable should not, in my opinion, change the diagnosis." The question, however, is a difficult one to solve on account of the lengthy periods over which remissions of the disease have been known to extend, and, in the cases quoted by the author, in support of the view of recoverability, none had been under observation for more than six years. The author, however, does not state that the patient had not suffered from any brain deficit.

The chapter on the behaviour of the Wassermann reaction in the blood and spinal fluid, the occurrence of pleocytosis and the increase of globulin in the spinal fluid is most instructive. In it is given, in schematic form, an estimation of the value to be placed on the positive or negative findings in either case, also an authoritative statement as to what influence the results of examination of the blood and spinal fluid should be allowed to have in determining the prognosis and the further treatment of the particular patient concerned. In this connection, Dr. Nonne states that when the four reactions are all negative one may conclude that the syphilis of the patient has really ceased to exist; he adds that he has seen a large number of such cases. "The persistence

of one or more of the four reactions demands a continuance of the treatment in cerebrospinal lues. In tabes and paresis the persistence of the three reactions in the spinal fluid is no indication for the continuance of the treatment, for, in these diseases, the three reactions, save in rare cases, are uninfluenced by any therapy with which we are at present familiar."

A special chapter has been added on the question of salvarsan therapy. Here the whole question of the treatment of the syphilitic nervous disease is dealt with, full details of the methods to be adopted in the various forms of administration are given, from that for the administration of the now somewhat antiquated original "606," to that to be followed in the intraspinal injection of salvarsanised or mercurialised serum. As regards the cases treated by the author with these latter methods, he was unable to notice any difference in their course than in cases treated by the usual methods.

Out of his own experience, Dr. Nonne advocates the combination of mercurial inunction with the administration of the arsenical compounds.

In his conclusions as to the value of the arsenical compounds the author is terse and to the point. He states that in cerebrospinal syphilis in individual cases, a quicker and more far-reaching result may be obtained with salvarsan than with mercury and iodide. There are also cases in which salvarsan has been effective after the older remedies have failed or have had an insufficient effect. The cases in which salvarsan has had an entirely favourable effect are, however, in the minority. In the majority the superiority of salvarsan over mercury and iodide is not apparent. In tabes and paresis the newer remedy is of no more avail than the older ones.

Dr. Nonne, though he admits the evidence pointing to the accerbatation of certain cases following treatment by the arsenical compounds, deprecates the idea of any serious danger, and would not permit such considerations to interfere with the laying down of the course of treatment. He advises commencing with the smaller doses, but considers that the intensive treatment has definite advantages in certain cases.

Detailed accounts are given of the tuberculin, the sodium nucleinate, and the vaccine method of treatment of nervous syphilis, though here the author has little to say in regard to his own experience of these methods.

He concludes his chapter partly with a warning against the "Furor Therapeuticus," which the laboratory reports have tended to instigate. He reminds his readers that the older and more experienced physicians used to say that a case was refractory to treatment if a six weeks' course of mercurial administration did not produce recovery or marked improvement. Many cases of nervous syphilis, and especially tabes and paresis, do not very well bear energetic treatment, and he much doubts the wisdom of the dictum that the treatment should be continued until the spinal fluid is normal.

In conclusion it may be remarked that, quite apart from the value of the book as a record of a large and extensive experience, the essentially practical manner in which the author has handled his material constitutes a strong claim for its usefulness to every practitioner who may have to deal with problems of the diagnosis and treatment of syphilitic diseases of the nervous system.

Morbid Fears and Compulsions : Their Psychology and Psycho-analytic Treatment. By H. W. FRINK, M.D. London : Heinemann, 1918. 8vo. Pp. 568.

This book is prefaced by an introduction from the pen of Prof. J. G. Putnam, of Harvard, who testifies to the abundant knowledge and conscientiousness of the author, a New York physician already known as closely associated with the American branch of the psycho-analytic movement. He is of the strictly Freudian school, making little reference either to Adler or to Jung, but he is a follower in no slavish sense, presenting the old doctrines in a fresh and personal way, and while not seeking to explain them away where to some they seem repellant, he yet puts them forward in a simple, straightforward, reasonable way likely to disarm many opponents.

There are, Dr. Frink remarks, three classes of readers to whom a book on psycho-analysis may appeal : those who are entirely ignorant of the subject ; those who know something and wish to know more with the probable intention of putting their knowledge into practice ; and those who know so much that they are only interested in questions of technique and elaborate cases. It is to the second class of reader he appeals, and it is for physicians who desire to take up psycho-analysis in practice that his book will be chiefly valuable.

The book covers wider ground than its title may suggest—indeed, the whole field of medical psycho-analysis. If, in accordance with Freudian doctrine, we are concerned with sex interests in the largest sense (to avoid the danger of unduly narrowing this sense of the word “sex” Frink prefers to call them “holophilic” interests), fear is to be regarded as either the repressed wish or libido itself converted into another form, or, we may better say, the protective reaction against the libido. It is the embodiment of the prayer, “Lead us not into temptation”—the classic prayer of him who is afraid of his own desires. The task before the author is thus that of expounding all the chief primary Freudian conceptions with special reference to the neuroses. Sometimes he does this in Freud’s own words. More often he sets forth the doctrine in his own way, showing a clear realisation of its significance and illustrating it at every point by observations drawn from his own rich experience. In further illustration he brings forward a detailed case (over 100 pages) of compulsion neurosis and a shorter history of anxiety hysteria. Throughout, the author shows his practical common-sense attitude by confining himself to the essential features of a case, and avoiding the fine-spun elaborations of interpretation which sometimes fascinate the psycho-analyst and arouse the wrath of the sceptic. Perhaps the most original feature of the book is an attempt to bring the Freudian conception into harmony with the behaviouristic psychology, but the author modestly disclaims his competence to do more than suggest this briefly.

Dr. Frink’s wide and thoughtful attitude is well exemplified by the closing pages, in which he discusses some of the deeper implications of psycho-analytic therapeutics. It is not, he remarks, mere “knowing” or “understanding” which cures the patient ; it is the living over again of what has subsided from consciousness which has the therapeutic

effect. Just what this consists in, or why it should have this beneficial effect, remains, it seems to the author, decidedly obscure; we can hardly even guess. It is clear, however, that psycho-analysis is a re-education, and in the fullest sense, not, as so often education is, a process of repression—a Procrustes' bed to which the child is forcibly fitted—but a real leading out of the energies along the lines that give them fullest and most advantageous expression. In the re-education of psycho-analysis this false education has often to be undone; the resistances dissolved by the analysis are in part those instilled by a supposed moral training. Thus, in a sense, psycho-analysis tends to destroy morality, but it is a false morality which is thus destroyed, and "the result of overcoming certain moral inhibitions may really be the attainment of a higher degree of morality than was possible while they were in force." The conscience is re-formed into a shape that furthers the welfare of the individual and increases his adaptation to life. That the process is not easy and that much circumspection is needed to avoid danger the author readily admits.

It may be noted that the death of Prof. Putnam, who wrote the introduction to Dr. Frink's book, had already occurred before the publication of this English edition. His final appearance here was characteristic of the man, for he had always been a pioneer, and among the older generation he was the most distinguished who came forward in America at an early stage as an avowed supporter of Freud, though his support was given in a judicial and discriminating spirit, as is clear even from this introduction. He died leaving behind him, Prof. Lowell has said, the reputation, not only of a physician of the highest attainments, but of "philosopher and saint."

HAVELOCK ELLIS.

How to Enlighten our Children. By MARY SCHARLIEB, M.D., M.S.
London: Williams & Norgate.

Dr. Scharlieb maintains that it is the duty of parents to prepare their children for the part they have to play in life, but, through ignorance or diffidence, this is too often neglected. The young man or woman is left uninformed of sexual hygiene, often with injurious results.

This book, which is written for parents, presents the necessary information and tells how and when the knowledge should be imparted.

The changes in the structure and functions of the body and the mental and moral outlook in puberty and adolescence are described in simple language. It is pointed out how necessary it is, at these transition periods, for a mother to explain what these changes mean and how essential it is for her to help her daughter to look after the general health by proper feeding, recreation, clothing, etc.

In the chapter on reproduction valuable advice is given on imparting the information to the child. This is led up to by a description of the reproduction processes in plants and animals.

Dr. Scharlieb considers that the parents should be frank and open in communicating these facts, and she believes that, if the child is asked to

treat them as confidential, the desire to guard the secret will overcome the natural inclination to speak of it to others.

A chapter is devoted to specific diseases, to the means of infection and their results.

The book, which deals with a difficult subject, is full of valuable information and is written in a simple manner. It is one which should be in the hands of all parents and guardians of young people.

Advanced Suggestion (Neuro-induction). By HAYDN BROWN, L.R.C.P.
Edin. London: Baillière, Tindall & Cox, 1918. Pp. 342.

That suggestion is a valuable method of treatment which is not made use of in as many cases as it should be is slowly being recognised. This seems to be borne out by the very large number of books on the subject which have appeared recently.

The "technique" which Haydn Brown employs, but which is not described, is referred to as being of a simple character.

Hypnotic suggestion is not recommended because the will-power of the patient is merely in a state of obedience, while by neuro-induction the will-power is steadily increased. The author states that the best results are obtained only with the co-operation of the patient in this method of treatment. He maintains that the sexual factor in mental disorders is not nearly so important as Freud believes, and he advises that the word, association test should not be adopted in the diagnosis or treatment of these conditions.

Reference is made to a very large number of clinical cases treated by Haydn Brown. In many of them excellent results would be expected, but there are others, both medical and surgical, in which the cures must be considered remarkable.

It is unfortunate that so many new terms are introduced into the book as they tend to lead to confusion. The omission of a description of the technique employed considerably detracts from the value of the book as a practical guide to treatment. Curiously works of this nature frequently suffer from this defect.

Part III.—Epitome of Current Literature.

1. Psychopathology.

Shakespeare's "Othello" as a Study of the Morbid Psychology of Sex.
(*Nineteenth Century*, June, 1919.) Sullivan, W. C.

Othello has usually been viewed as a tragedy of heroic love rather than as a tragedy of insane passion, which the writer contends is probably the correct interpretation. Definite indications are afforded in the play of the pathological temperament of Othello, and it is suggested that Iago, who is depicted by Shakespeare as inhumanly

wicked and supreme in evil, is used in the play as the dramatic representation of morbid passion. He is not an actual human personage, but he represents the projection of the insane thoughts and impulses of Othello; he is the dramatic device for showing the growth of diseased passion in the mind. The gross sexual imagery in the speeches of Iago are those which express the condition of a jealous lunatic. Just as Hamlet's hatred is crystallised by the confirming voice of the Ghost, and the subconscious stirring of ambitions in the soul of Macbeth are dramatically presented in the prophecies of the witches, so the growth of morbid jealousy in Othello expresses itself in gross sexual thoughts of hallucinatory intensity projected into the inhuman figure of Iago.

H. DEVINE.

2. Clinical Psychiatry.

General Paralysis among the Jews [*Die Paralyse der Juden in Sexuologischer Beleuchtung*]. (Zt. f. Sexualwiss., June, 1919.)
Sichel, M.

Until recent times general paralysis has been rare among Jews. Then it rapidly increased until it affected a fifth of the Jewish inmates of asylums. In the last decade this proportion has slightly fallen, but the fall appears to be apparent rather than real, as Sichel here explains.

What are the causes of this sudden development of general paralysis among Jews? Zollschen believes that syphilis works more virulently on Jews because they were previously so free from it. Sichel finds difficulties in this explanation, and attaches more importance to the growth of large cities and the confinement of Jews in such cities, with the manifold opportunities for sexual excesses thus opened to them. In nearly all large cities there is a special prevalence of general paralysis among Jews as compared with the general population. Sichel quotes figures for Vienna, London, and Frankfort. In rural districts, on the other hand, general paralysis is extremely rare among Jews. The spread of the disease is evidently dependent on urban life, and it is suggested that the results of the war, which have led to the cry of "Back to the plough!" even among Jews, will in this respect be beneficial.

The author remarks that his thesis concerning the connection between the Jewish attraction to urban life and the special prevalence of general paralysis may seem to be shaken by what is witnessed in Russia. There the Jews are exclusively town-dwellers, for they had not been allowed to be anything else, yet general paralysis is very rare amongst them. This Sichel attributes to the thorough manner in which the eastern Jews still exercise their traditional rites and customs. The unfavourable political conditions which have led to their doing this have been one of those forces which "willed evil and produced good." The eastern Jews have been enabled to retain their vital energy uncontaminated, and as we pass from east to west we find an ever-decreasing neglect of traditional observances, and, concomitantly, an ever-increasing prevalence of general paralysis.

This result has, however, been powerfully aided by the custom of early marriage among the eastern Jews—a custom which has decayed in

the west owing to the increasing difficulties of living. We may expect that, in this respect also, the war will be influential. The care with which Jewish families surround young girls has been largely maintained in the west, and that is probably the reason why the prevalence of general paralysis is only among men, Jewish women being remarkably free from it.

A further factor is found in the increasing abuse of alcohol among the Jews, who formerly tended to be abstemious. Sichel finds that in his own observations 17 out of 127 Jewish general paralytics had had alcoholic tendencies, though the abuse of alcohol had been rare among some 840 other Jewish asylum inmates; "there is a certain connection between alcohol and general paralysis."

It is also noted that Jewish general paralytics in the great majority belong to the commercial class, and in their daily life had many opportunities for acquiring syphilis. Of late, however, it is found that general paralysis is extending to other Jewish social circles, and that it is no longer rare among artisans.

HAVELOCK ELLIS.

A Proposed New Classification. (The Mechanistic Classification of Neuroses and Psychoses produced by Distortion of Autonomic Functions). (Fourn. Nerv. and Ment. Dis., August, 1919.) Kempf, E. J.

The author, who is Clinical Psychiatrist at St. Elizabeth's Hospital, Washington, here proposes a new classification of the psychoses and neuroses based on the view that "the same forces which build up a personality when harmoniously integrated cause its deterioration when unadjustable conflicts occur." Modern psychiatry, he believes, needs an elastic adaptable hypothesis, a direct terminology, a simple comprehensive method of classifying cases. The Kraepelinian system fails because it is fundamentally on a static basis, emphasising symptoms and prognosis. Symptoms are grouped into circumscribed entities of disease, despite the fact that in a large proportion of cases the symptoms are classifiable into two, three, or even more groups, such as neurasthenia, manic-depressive or dementia præcox types, while about half the cases are, at one period or other, atypical. There is thus nothing to do but dogmatically to force the most suitable diagnostic term on to the case for statistical purposes.

It seems to Dr. Kempf, therefore, more practical to classify psychopaths according to the nature of their autonomic-affective difficulties and their attitude towards them, because this keeps the dynamic factors directly in psychiatric attention and permits of revision as the symptoms change. The system of terminology here proposed relates to the essential mechanistic factors that make a case curable or incurable, and an important distinction is made between *benign* and *pernicious*. "Benign" means that there is "a tendency to accept the personal source of the wishes or cravings which cause the distress or psychosis"; "pernicious" means that there is a tendency to refuse to accept the personal source of the wish or craving, to hate those who attribute a personal source, and to blame some external or impersonal source.

There are five groups in the system: (1) *Suppression neuroses*, with clear to vague consciousness of the ungratifiable nature of the affective cravings, and distressing hyper-tensions or hypo-tensions of autonomic (visceral) segments. (2) *Repression neuroses*, with vague to total unconsciousness of the nature of the influence, and the symptoms of the first group, augmented by functional distortion of the projecting apparatus and changed reactivity to sense-organs. (3) *Compensatory neuroses*, with persistent striving to develop power and control and win esteem due to the fear of losing them, usually accompanied by some of the same symptoms found in the previous groups, with additional compulsions and inspirations to strive for favourable conditions, resulting in all sorts of eccentric attitudes, and on the physical side increased muscular tension, high blood-pressure, tachycardia, exophthalmic tension, hyperactive thyroid, adrenals, etc., glycosuria. These three groups are benign; the next two are pernicious. (4) *Regression neuroses*, with failure to compensate, but return to an earlier more comfortable irresponsible level, permitting wish fulfilling fancies, postures, and indulgences—together with persistence of attitudes belonging to the child stage and general inefficiency and depression. Lastly (5) *Dissociation neuroses*, where uncontrollable cravings dominate the personality and there are distressing visceral tensions and all kinds of sensory and social derangements.

The author fits the old diagnostic terms into this new framework in ways that can usually be guessed, but the commonest of the current types—manic-depression, dementia præcox, hysteria, etc.—fall into two or more of the groups. It will be seen that the term “psychosis” is dropped altogether, on the ground that “the sensory phenomena which we are conscious of as thoughts and wishes are the result of integrative physiological processes, and the term ‘neurosis’ is more consistent with the integrative functions of the nervous system.” No reference is made to the psycho-analytic school of thought, or to the work of Sherrington, Cannon, and Crile, but the inspiration of this classification is sufficiently obvious. The author observes that it is only to be considered “experimental and suggestive,” but he has himself found it useful.

HAVELOCK ELLIS.

Concerning “Constitutional Cœnæsthopaths” [A proposito di “Cenestopatici Costituzionali”]. (Arch. di Anthropol. Criminale, vol. xxxix, fasc. 3-4, 1918-1919.) Lattes Leone.

The term “constitutional cœnæsthopathy” was suggested by Prof. Buscaino (*Revista di Patol. Nerv. e Mentale*, 1918), as a useful denomination for a group of symptoms of emotional origin met with in patients who came under his observation in military practice, especially in connection with acts of misconduct—desertion, insubordination, impulsive assaults, attempts at suicide and self-mutilation. Buscaino observed that the majority of these individuals complained of anomalous sensations referred to the viscera, and that they also presented objective signs of disordered functioning of the sympathetic system, notably exaggerated reaction of the pulse to change of position, and disturbances of the oculo-cardiac reflex. In the present paper Lattes, while not

disputing the facts adduced by Buscaino, criticises, from the medico-legal point of view, his conception of constitutional cœnæsthopathy on the ground that the disorders referred to are of frequent occurrence in moral defectives and congenital criminals, and that in fact the military offenders presenting these symptoms belong for the most part to the category of the instinctive delinquent, and should not, therefore, be allowed to escape the penal consequences of their acts on the plea of being the subjects of nervous disease.

The point appears of rather academic interest except as illustrating the greater prominence which the experience of the war has given to the problem of the neurotic and border-line criminal.

W. C. SULLIVAN.

Dream-state due to Acute Exhaustion, with Psycho-analytic Note [Stato Sognante vero da esaurimento Acuto, con indagine Psico-Analitica]. (*Arch. di Anthropol. Criminale*, vol. xxxix, fasc. 3-4, 1918-1919.) Marro, Giovanni.

This paper is a detailed report of a rather remarkable case of oniric delirium. The patient, a man, æt. 32, was an Austrian official, lodging with an Italian family in Alessandria, and subject as an alien enemy to the usual measures of supervision.

On February 18th, 1916, as the result of a prolonged bout of sexual excess, he got into a condition of pronounced nervous exhaustion with rise of temperature, profuse sweatings, and absolute inability to take food. These symptoms continued till February 25th, when he suddenly got up, left his lodgings, and made his way to Turin, where he engaged rooms and reported himself to the police authorities, telling a circumstantial story to the effect that he had killed two persons at Alessandria who had attempted his life for motives of vengeance because he defeated their projects of usurious exploitation, that the judicial inquiry had exonerated him on the ground that he had acted in self-defence, but he had been advised to leave the town. The Turin officials telephoned to Alessandria, and found that no such incidents had occurred, and the patient was accordingly, in spite of his vehement protests, sent to the asylum for observation. There he maintained the truth of his story, and asserted further that shortly after his admission to the asylum he was visited by his parents, who were enabled to come to see him because peace had been made between Austria and Italy. In three days his temperature fell to normal, the sweatings ceased, and he became more reconciled to his detention. And after two days more he suddenly announced that he had dreamt the whole affair.

At Marro's request the patient wrote out a minute account of his imaginary experiences, and from this document, supplemented by the results of interrogation, it was established that the fantasies arose in a series of connected dreams beginning on February 24th, and having their apparent starting-point in a proposal, really made to him on that date, to advance him a sum of money. Marro's analysis satisfied him of the existence of a painful emotional state due to the patient's unpleasant position as an alien enemy, to his financial difficulties, and to his self-reproaches at being obliged to be a non-combatant at a

moment of crisis for his country. The imagined acts of violence symbolised his repressed wishes to fill a more bellicose rôle, and were associated also with a disagreeable and very lively memory of youthful indiscretions with moneylenders.

W. C. SULLIVAN.

3. Pathology of Insanity.

The Pathogenesis of Chronic Alcoholism [*Sobra la pathogenesis de la intoxicacion alcoholica*]. (Rev. de Criminol., Psiquiatria, y Med. legale, Anno V, No. 26, 1918; reference in Arch. di Anthropol. Criminale, vol. xxxix, fasc. 3-4, 1918.) Ducceschi and Barilari.

From a clinical study of 121 subjects, including abstainers as controls, and from a series of experimental researches, the authors state that continued intoxication with ethylic alcohol in man and in animals determines a manifest increase of cholesterin in the blood, which in their view explains the generalised organic lesions met with in chronic alcoholism.

W. C. SULLIVAN.

The Blood Urea Nitrogen in Katatonia. (Fourn. Nerv. and Ment. Dis., February, 1919.) Rappleye, W. C.

Examinations of the blood were made before, during and after semi-stuporose phases of katatonia. The cases chosen were mild ones who ate during the period of examination, and the blood was taken before breakfast, about twelve hours after a previous meal, so that the food factor was eliminated as far as possible. Controls were carried out on other patients having similar diet, and the efficiency of the renal function was ascertained in every case. The blood urea nitrogen values showed a 50 per cent. or more drop from normal during the semi-stuporose katatonic phase. The significance of this finding is considered as probably due to lowered endogenous metabolism with vasomotor hypotonia. Renal stimulation and incomplete protein absorption from the intestines are considered as unlikely causative or associated factors.

F. E. STOKES.

4. Treatment of Insanity.

Modified Psycho-analysis in Borderland Neuroses and Psychoses. (Psycho-anal. Rev., July, 1919.) Clark, Pierce.

For some seven years the author has made use of psycho-analytic methods in borderland cases. He here briefly summarises results which will later be set forth in full detail.

Seven manic-depressive cases came under consideration. In all it was found advantageous to go carefully over the conscious and foreconscious settings of the patient's difficulties, especially those which seemed to precipitate the periodic depressions. Dream production was mostly found to have quite adult settings and not even latently sexual in interpretation. Nor could analysis be pushed rapidly or completely as in the hysteric neuroses, but dream interpretations had to be, as it were, distilled. These periodic depressants seemed to demand mostly a

common-sense re-formulation of their attitudes towards life-problems as embodied in the marriage situations, with sublimation and substitution for those not married. A psycho-analytic understanding of the patient's emotional life greatly helped this task. These patients exhibited but little grit, courage, and perseverance, or hold on the basic realities of life.

A similar essential weakness of the primary instincts of life was revealed by "mental torticollitics," the individuals possessing an intensely infantile emotional life with intellectual endowments below those found in compulsion neuroses. The inversion required by psycho-analysis reduced them to impotence, and they had to be assisted towards new developmental principles needed for adulthood.

Dementia præcox is usually seen too late for helpful psycho-analysis. In such cases any pure application of it, the author believes, invariably does harm. It takes away the crutches the patient has made and reduces him to impotence. He should not be analysed, but receive conscious suggestive therapeutics.

In conclusion, the author states, psycho-analytic methods should only be used in borderline neuroses and psychoses with the greatest care, but may be employed freely by the physician to enlighten his own mind on the problems of the case he has to meet.

HAVELOCK ELLIS.

5. Sociology.

Sex Expression on a Lowered Nutritional Level. (Fourn. Nerv. and Ment. Dis., March, 1919.) Miles, W. R.

There appear to have been so far only fragmentary data in existence concerning the effects of under-nutrition on the sexual impulse. Some interest, therefore, both theoretical and practical, attaches to a study of the effects of prolonged restriction on diet lately carried out at the Nutrition Laboratory of the Carnegie Institution in Boston. The inquiry into sex effects was a by-product of the investigation, and it is believed that the influence of suggestion may be for the most part excluded.

Two squads of students, all young men and one married ("a clean group of honest, virile fellows, with no venereal disease"), were selected, twelve in each squad, the second squad being for control purposes, and put under a restricted diet, approximately two-thirds to one-half of their supposed caloric requirements, during a period of four months. The main results were a reduction in basal metabolism of 18 *per cent.* per kilogramme of body-weight, lowered blood-pressure, and a drop in pulse-rates but not in temperature. There was little decrease in neuro-muscular co-ordination, no falling off in scholastic work, very little in physical strength, and no apparent lack of vitality or efficiency or athletic vigour.

A few days after the termination of the experiment the inquiries regarding sex phenomena were made of each man privately and individually. There had been no preliminary reference to this subject, but the men were all willing to discuss the matter freely and fully. They were warned of the possibility of fallacies due to suggestion or introspection. Their evidence gave the impression of truth.

Out of 23 of the students of whom the inquiry was made, 22 reported a decreased general sex interest, the remaining 1 stating that there was no change; 16 out of 22 stated that there was a decrease in the number of nocturnal emissions, 6 observing no change, and none noting any increase; 13 had observed a diminished frequency of erections, 4 observing no change in this respect; 9 found the desire for association with the opposite sex diminished; several reported that the sex appeals of dances, social occasions, picture shows, stories, etc., were diminished; the married man, it may be noted, used the term "unsexed" to describe the effect of the low diet on himself. At the time of the inquiry, about a week after the end of the experiment, many were already experiencing a return of normal sex desires and activities under an unrestricted diet.

Miles remarks that these results confirm the supposed connection between sex and metabolism and agree with the results reached by Riddle and others, who, studying the lower animals, find that sexual activity is probably dependent on the metabolic level. Nature appears to require a high metabolic level for purposes of race propagation.

The author remarks in conclusion that the results also clearly indicate a method of treatment for achieving restraint of sexual tendencies in pathological cases of excess.

HAVELOCK ELLIS.

The Berlin Institute of the Sexual Sciences [Der Institut für Sexualwissenschaften in Berlin]. (Zt. f. Sexualwiss., August, 1919.)
Birnbaum, K.

Dr. Birnbaum here describes the aims and constitution of this institution, founded by the generous efforts of Dr. Magnus Hirschfeld, and opened last July in a building that was formerly the residence of Prince von Hatzfeldt and previously of the famous musician Joachim. (A later and longer account of the Institute appears in the *Jahrbuch für Sexuelle Zwischenstufen*, Bd. xix, Heft 1 and 2). It is the first institute of the kind to be established anywhere in the world. Its functions are double—in the first place for investigation, and in the second place for treatment and clinical teaching. As an institute for investigation there are four departments: (1) Sexual biology, dealing with such questions as the chemistry of the endocrine glands, heredity, etc.; (2) sexual pathology, dealing with variations, etc., closely in touch with the practical medical side of the Institute and possessing a museum which is already rich in varied material; (3) sexual sociology, for dealing with the relations between sex and society, eugenics, marriage, prostitution, sexual hygiene, etc.; (4) sexual ethnology, including the manners and customs of different ages and peoples, and the influence of sexuality on civilisation. The practical medical side of the Institute is also divided into four departments: (1) For giving advice to those about to marry or to choose a profession; (2) a psychopathic department; (3) a department for psychic sexual troubles, as of potency, etc.; (4) disorders of the genital organs. There are also a laboratory for analyses, and instalments for psychotherapy, organotherapy, electrotherapy, photography, etc.

In his inaugural address Hirschfeld spoke of the Institute as "a child of the Revolution," and destined to aid in the restoration of the place which was "lost through fatal errors inside and outside of the frontiers of the country." The Institute is already at work with clinical demonstrations to medical men every week, courses of lectures on forensic sexology and on Freudian psycho-analysis, and frequent scientific lectures to the general public. It is stated that over 500 physicians from Germany and abroad have already visited the Institute. It is not a State-supported institution, but the belief is expressed that it will not be the less successful on that account.

HAVELOCK ELLIS.

Part IV.—Notes and News.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.

THE QUARTERLY MEETING of the Association was held in the Rooms of the Medical Society of London on Tuesday, November 25th, 1919, Dr. Bedford Pierce (President) in the chair.

The following signed their names in the book as having been present at the meeting or as having attended meetings of committees: Drs. M. A. Archdale, Sir Robert Armstrong-Jones, W. H. Bailey, W. R. Barkas, J. J. G. Blandford, C. H. Bond, David Bower, A. Helen Boyle, James Chambers, G. Clarke, R. H. Cole, Maurice Craig, J. Harvey Cuthbert, A. Daniel, H. Devine, J. Francis Dixon, R. Eager, J. H. Earls, F. H. Edwards, Samuel C. Elgee, A. E. Evans, C. W. Ewing, E. L. Forward, Claude F. Fothergill, S. G. Gilfillan, T. S. Good, W. J. H. Haslett, H. E. Haynes, S. J. Irwin, G. H. Johnston, J. H. Kidd, H. Wolseley Lewis, E. S. Littlejohn, J. R. Lord, H. C. Macbryan, H. D. MacPhail, W. F. Menzies, Alfred Miller, F. W. Mott, Alex. W. Neill, David Ogilvy, E. S. Pasmore, George E. Peachell, Bedford Pierce, J. E. Porter Phillips, Nathan Raw, J. M. Rutherford, G. H. Savage, G. E. Shuttleworth, J. H. Skeen, G. W. Smith, T. W. Smith, J. G. Soutar, P. Spark, R. H. Steen, R. C. Stewart, James Stewart, D. G. Thomson, John V. Tighe, A. H. Trevor, C. Molesworth Tuke, L. R. Whitwell, C. E. C. Williams, and Reginald Worth.

Visitors: Miss Branch, I. N. Kilner, F. W. Thurnman.

Present at Council Meeting: Drs. David Bower, A. Helen Boyle, James Chambers, R. H. Cole, Maurice Craig, A. W. Daniel, R. Eager, H. Wolseley Lewis, John R. Lord, W. F. Menzies, Alfred Miller, G. E. Shuttleworth, J. H. Skeen, R. H. Steen, and D. G. Thomson.

Apologies for unavoidable absence were received from—Drs. Stewart Adair, G. E. Auden, Aveline, Fletcher Beach, Col. Keay, Douglas McRae, Robertson, Donald Ross.

The PRESIDENT said, in reference to the question of the confirmation of the minutes of the last meeting, that they were in print, but the Journal containing them would not yet have reached the hands of members. He therefore suggested that, in case anything should arise concerning them, they be left until the next meeting.

REPORT ON DEPUTATION TO MINISTRY OF HEALTH.

The PRESIDENT said he had been asked by the Council to say a word on this subject. The deputation from the Association to the Minister was a strong one, consisting of officers of the Association, the Chairman and Secretary of the Parliamentary Committee, Dr. Helen Boyle and Dr. Percy Smith, and altogether it was thoroughly representative of the Association. They were very kindly

received by Dr. Addison, the Minister of Health, who was supported by Sir George Newman, Sir Robert Morant, and by Dr. Maurice Craig, Adviser to the Board. The deputation presented the resolution which was approved by the Annual Meeting of the Association at York, and, following it, a very interesting and confidential discussion took place. But they found at the outset—which was news to them at the time—that it was the intention of the Ministry of Health, directly Parliament opened, to place on the table of the House of Commons a petition for an Order in Council which would transfer the Department of the Government under which the Board of Control acts from the Home Secretary to the Ministry of Health. It was the intention that this Order in Council should be obtained at the earliest possible moment. Had the Council of the Association known of this intention beforehand, he thought that in all probability the resolution would not have been required, nor would it have been submitted to the Annual Meeting, because that was the main burden of the resolution—that the control of lunacy administration, the control of mental defectives and of borderline cases should all be under the Ministry of Health. It was a pleasant surprise to find that the main object of the deputation had already been attained. Thus there remained little more for him to report to this meeting, except that a frank discussion ensued on various points arising in the consideration of this matter. And though the Health Minister could not give a definite answer to the questions put to him, their reception was very kindly, and the members of the deputation felt they had had a useful opportunity of discussing the problems of lunacy administration.

ITEMS FROM THE COUNCIL MEETING.

There were several questions discussed at the Council Meeting just held which it was desirable to mention. The first was, that he was pleased to say Sir James Crichton-Browne had consented to deliver the first Maudsley Lecture under the Maudsley Bequest. It was proposed that this lecture should be delivered at the time of the Association's meeting in May.

The question of the Editors of the Journal was also discussed. It was the intention that in future there should be four Editors: Lieut.-Col. J. R. Lord, Dr. H. Devine, Dr. G. Douglas McRae, and Lieut.-Col. W. R. Dawson. The Council had approved of that course, and unless this meeting should express anything to the contrary those names would be printed on the front page of the Journal as Editors in future. He felt sure there would be a conviction that the Journal would be well conducted at their hands.

The Council also felt that the position in regard to the registration of nurses was becoming a very serious one. They had been informed there was every possibility that there would be a Supplementary Register for mental nurses, and there was every possibility that the examination conducted by this Association would be recognised as a means of registration. If this should be carried out by the Ministry of Health, he thought it would be most satisfactory. The question was also raised as to whether it would not be important that, somehow, it should be arranged for mental nurses to be nominated on the Advisory Council of the new Bill. They knew of no machinery for the appointment of such nursing members, and it was decided to endeavour to arrange, through the Asylum Workers' Association, that two names of their members should be submitted—a male nurse and a female nurse—and it was thought that the best way to arrange this would be that all asylums and other institutions in which qualified mental nurses were now working should receive a circular from this Association, asking them to call meetings immediately of registered nurses in their respective institutions, and, if possible, that these meetings should approve of the nominees of the Asylum Workers' Association. It seemed extremely important that no time should be lost, otherwise there was a danger that mental nurses would not be represented, as such, on the governing body of the new Bill. He did not know whether any member of the Association would like to make observations on this matter.

Lieut.-Col. D. G. THOMSON asked why the Asylum Workers' Association was brought into this matter at all. They had great respect for that body, but it was now practically moribund.

Dr. SOUTAR said he believed the answer to the remark of Col. Thomson was that the representative of the nurses must be nominated by an organised body; that

was a condition laid down. No organised body of mental nurses generally was in existence except the Asylum Workers' Association, which, though dying, was not yet dead. And it was thought that at all events this final effort should be made to secure the nomination of nurses for the Council under the Bill. If that were accepted by the nurses throughout the country, then an organised body would have nominated four members to the proposed Council.

The PRESIDENT said it would be a recommendation to the Minister of Health, for that Ministry would make the appointment, and this would come merely as a suggestion to that Minister, putting forward the machinery through which suitable names could be submitted.

Dr. SOUTAR further remarked that this Association would be represented on that Council, and names would be submitted.

Dr. ELGEE said he thought many mental nurses would not be represented by the Asylum Workers' Association.

Dr. EDWARDS said he did not know whether the Council had information about the presentation of the new Bill. He believed the Registration of Nurses Bill came up before the Summer Session and was rejected. It was now desirable that these meetings should be held as quickly as possible all over the country, because when a Bill had once been launched it was very difficult to get amendments incorporated.

The PRESIDENT said the steps being taken by the Association had the full approval of Col. Nathan Raw, M.P., and he would give them all the support he could. The question was asked whether this Association was to be represented on the new Council, and he had been honoured, as President of the Association, by being asked to let his name be submitted to the Minister, so that, subject to the Minister's approval, it might be one of five names put forward.

Dr. BOWER and Dr. SOUTAR insisted that the President's name was suggested for personal reasons, not because he happened to be President this year.

The PRESIDENT said the Council had asked him to refer to yet another matter, namely, the desirability of awakening interest in the Association on the part of medical men throughout the country to the important work which this Association was doing. It had been decided to prepare, in the course of a few weeks, a memorandum, which would be sent round very widely, suggesting that assistant medical officers and medical men associated with pension boards and with the neurological department of hospitals should be invited to join the Association, or if they had once belonged to it to rejoin it now that the war was over and the Association's activities were recommencing in a more vigorous fashion.

OBITUARY.

The PRESIDENT said it was his sad duty to refer to the death of three valuable members of the Association.

In the first place he would mention the death of one of the Editors of the Journal, Dr. Drapes. He had been an exceedingly valuable and active member, and he had set all a wonderful example of regular attendance, as he came frequently from the south of Ireland to attend the meetings, and he had done an immense amount of unseen work in helping forward the Association, both as regards the Journal and the Education Committee. He was present at the last Annual Meeting of the Association, taking an active part in the proceedings and participating in all the proceedings, and he (the President) had received a letter from Dr. Drapes afterwards, in which he spoke very warmly of the happy time he had in York. He believed it was correct to say that Dr. Drapes caught a chill while he was actually engaged in the work of the Association and the Journal, and after two or three days of illness he died of pneumonia. He was sure all members would greatly deplore his loss.

The next death he had to refer to was that of their illustrious member, Dr. Mercier. All the time that he (Dr. Pierce) had been a member of this Association Dr. Mercier had been one of its foremost and most active members. He had been President, and for nineteen years he was closely associated with the Education Committee, first as Secretary, afterwards as Chairman. He believed Dr. Mercier was the first person who wrote a book on the subject of nursing the insane, and he

helped in the compilation of some of the early editions of the Association's Handbook. Throughout his life he took a deep interest in the question of nursing. It was on this account that he (the speaker) asked Dr. Mercier to give one of the opening lectures at "The Retreat" to the nurses there, and he delivered an address which was really a masterpiece of exposition on the principles required in nursing mental cases. That address had since been published, and he hoped members had read it. It dealt not only with mental nursing, but with the principles required for all who were attending on the sick. A man who had written so much had left behind him such vivid testimonies of his worth and character that any remarks which a friend or disciple could make were, perhaps, of small moment. Yet there were two particular features of Dr. Mercier's life to which he would like to make brief reference. The first was his capacity for taking pains and his perseverance. It was a surprise to him (the speaker), and perhaps to others, also, that Dr. Mercier commenced life in a very hard school. He left school life quite early and went to sea. Afterwards he was a warehouseman in the City. Though in straitened circumstances he contrived to join the London Hospital, and when he reached his twenty-sixth year he was a Fellow of the College of Surgeons. He had a distinguished career and became an eminent man. Those who were familiar with his writings—and all the members of this Association were familiar with them—might have supposed it was an easy matter for him to write, but Dr. Mercier had a letter from him, from which he would like to read to the meeting an extract: "Writing, as Clifford Allbutt calls it, is the supreme art. The only way to write is incessant and careful practice and everlasting revision. I have written my book on Logic already about seven times, and am now again beginning Chapter II, and, of course, all the succeeding chapters must be once more re-written. But, of course, the subject is one of exceptional difficulty." That book on logic had now been published, and though the professors on that subject possibly did not give it the reception which Dr. Mercier expected them to, yet he thought it would stand the test of time.

The other outstanding attribute of Mercier's life was his fortitude. It was known to many members that Mercier was obliged to give up active medical work on account of a progressive, painful and exhausting illness. It was at about this time that he gave the lecture to the nurses of "The Retreat," to which reference had already been made, and at about that date Dr. Mercier wrote to him a very sad letter, in which he said, "I am no better in health, and never shall be; I get worse, week by week, and long for a release from a life of misery." This was not just the remark of a person in a moment of depression. It was wrung from a man racked with bodily suffering. When Dr. Mercier gave this lecture he could scarcely stand during the hour that it occupied, and he (the speaker) knew how much the lecturer suffered while he was giving it. He received a letter from Mercier's devoted sister after the former's return from York, in which she wrote, "I am sorry to say the inevitable reaction has set in; to-day he is prostrate with fatigue and complains of faintness; but his life, at best, is such a sad one nowadays that I cannot think that the pleasure which these little outings give him is too dearly bought. He has so little to enjoy, and as he sometimes has these fits of prostration and languor without any apparent reason I think it is wise to keep going while he can, even at the price." And Dr. Mercier did "keep going" for another ten years, and he was sure mankind had been the richer for his fortitude. Perhaps there was no need to say more than to conclude by reading the last sentence of his address to the York nurses: "Not to everyone is it given to govern empires, to explore unknown lands, to discover the secrets of Nature, to enrich nations by some great invention; but we can all do well and truly the work which lies to our hands; we can all contribute to make the lives of those around us happier and better; we can all live so that at the inevitable hour when we have to bid farewell to this earthly scene, many will sorrow for our loss, and we can feel, with thankfulness, that the world is even a little happier because we have lived, even a little better for our example." We mourn his loss.

And the third death he had to refer to was, perhaps, even sadder, namely, that of Dr. Fearnside, for he was cut off in the midst of an active life at the full measure of his strength. A neurologist of great power, he died as the result of a boating accident. Members deeply sorrowed at his loss, and grieved that he could no longer carry on the great work in this world which he was undertaking.

It would, he felt sure, be the wish of members to express their sympathy with

the surviving relatives of their departed members, and he asked that this be approved by standing.

The resolution was carried by members rising in their places.

ELECTION OF CANDIDATES FOR MEMBERSHIP.

The following were elected :

BRANTHWAITE, ROBERT WELSH, C.B., M.D.Brux., M.R.C.S., L.R.C.P., D.P.H.Lond., Commissioner of the Board of Control, 66, Victoria Street, London, S.W.

Proposed by Drs. Sidney Coupland, C. Hubert Bond and Arthur Rotherham.

BLAKISTON, FREDERICK CAIRNS, M.R.C.S., L.R.C.P., Medical Superintendent, Isle of Man Asylum.

Proposed by Drs. Edwyn H. Beresford, P. M. Turnbull and R. Worth.

JOHNSTON, MILLICENT HAMILTON, B.A., M.B., B.Ch., T.C.D., Assistant Medical Officer, Brentwood Mental Hospital.

Proposed by Drs. J. Turner, J. Noel Sergeant and Adele I. de Steiger.

WESTRUP, JOSEPH PERCIVAL, M.R.C.S.Eng., L.R.C.P.Lond., M.O. Fisherton House Mental Hospital, Salisbury.

Proposed by Drs. H. Kerr, H. Devine and T. C. Shaw.

WHEELER, FREDERICK F., M.R.C.S., L.R.C.P., Assistant Medical Officer, Long Grove Mental Hospital, Epsom, Surrey.

Proposed by Drs. D. Ogilvie, R. H. Cole and R. Worth.

GIFFORD, JOHN, B.A., M.B., Ch.B., Senior Assistant Medical Officer, Derby County Asylum, Mickleover.

Proposed by Drs. H. Devine, F. E. Stokes and R. Worth.

The scrutineers were Dr. Steen and Lieut.-Col. Lord.

THE ASSOCIATION'S FINANCES.

Dr. WORTH said that during the meeting at York a discussion arose on the Treasurer's Report, and it was decided that a special Sub-Committee should be formed to consider the financial position and report to the Council. This Sub-Committee consisted of Dr. Bedford Pierce, Dr. Chambers, Dr. Menzies and Dr. Worth, and the Divisional Secretaries. After a good deal of discussion they arrived at three decisions. The first was that the annual subscription should be raised to one and a-half guineas, especially to meet the extra cost of producing the Journal. Members would remember Dr. Drapes pointing out how high had been this cost, and that endeavours would be made to procure other prices. There were, however, objections to this course, and it was decided to approach Messrs. Adlard with a view to getting some reduction in the cost of the printing, etc. Also, it was considered that all medical superintendents should be approached with the idea of extending the Association's propaganda among medical officers, to encourage them to, if possible, take more interest in the Association's activities. Indeed, it was suggested that it should be an understood thing that every medical officer appointed in an asylum should be a member of this Association. The last suggestion was to encourage the sending in of ideas with regard to brightening and improving the Journal.

REVISION OF THE MENTAL NURSES' HANDBOOK.

The PRESIDENT said the Education Committee decided that the time had arrived when the Handbook for mental nurses should be revised. They were taking preliminary steps to appoint an Editing Committee. He mentioned the matter now, so that when the time came members might be prepared with suggestions. He hoped suggestions would be forthcoming, so that not only would the Handbook be improved, but would be worthy of the Association.

He regretted that Major Shaw had been obliged to withdraw his paper, as the India Office had not passed it.

PAPER.

Dr. CHARLES HUBERT BOND (a member of the Board of Control) read the following paper: "The Need for Schools of Psychiatry" (*vide* p. 10.).

The PRESIDENT said members felt greatly indebted to Dr. Bond for giving this admirable survey of the subject. There were several in the room who had served on committees which had dealt with the subject. It was a great advantage to have the points so clearly put forward, pointing the way for advance. They realised the enormous number of military clinics which had been established had created a new situation and now was the time for making a permanent improvement.

Lieut.-Col. LORD said the subject which Dr. Bond had just brought before the Association was one of vast importance. He took it that the paper aimed at the more thorough treatment of patients with a view to their cure. People suffering from mental trouble were too frequently looked upon as a class apart from individuals who suffered from ordinary bodily ailments. Such views should be vigorously opposed. Lunacy was essentially a medical matter and not a social disease, though, like all medical problems, it was important socially. Efforts should be concentrated on curing mental disease, not merely reclassifying the unfortunate patient in an isolated category of the scale of humanity. It was most desirable that specialism with regard to the treatment of mental diseases should be encouraged far more in the future than it had been in the past. He mentioned that the war had taught the profession many things in this respect, and it was only through the concentration of the best efforts and by special administration that the immense progress in the cure of many diseases and injuries incidental to or exacerbated by warfare had been effected. These methods could well be considered in connection with mental diseases. The medical effort in psychiatry was too wide-spread and diffuse, and resulted in too much general knowledge to the exclusion of special knowledge of particular groups of mental disorders. It could not be helped at present, but until this was remedied no real progress could be made. There seemed to be no reason why mental and nervous diseases should not be divided up into clinical groups and concentrated effort made to cure them at different specially-administered centres for each. The scheme now so ably put forward by Dr. Bond would directly help to that desirable result. By the Universities he felt sure such ideas would receive strong encouragement. The psychiatrist's ambition is undoubtedly to cure insanity, but to secure this it is folly to undertake too wide an area, and he should limit himself to cure certain forms of insanity and allied nervous conditions and not waste his energies, as at present, with impossibilities. He felt very strongly about this aspect of the subject and the poor progress that was being made under present conditions.

Lieut.-Col. D. G. THOMSON said that as Dr. Bond had mentioned his name as one who had helped to bring this subject forward ten years ago he would like to say a few words. His friend Col. Lord had referred to the advisability of this reform, but he (the speaker) hoped they had gone long past that: they were now all united in the belief that things as they exist at present were not satisfactory, and it was for those interested in the subject to see how a remedy could be brought about. Dr. Bond had brought forward the matter in an admirable way, and if that gentleman was glad to find himself back in the witness-box, members of the Association, on their part, were delighted to see him back. Hearing Dr. Bond's paper for the first time, it struck him there were two main points in it. In the first the author emphasised—and, the speaker thought, rightly—the real direction in which workers should aim in this subject. It had recently been recommended in some of the Committee work of the Association that an endeavour should be made to establish mental clinics. As he understood that work, it was to be rather local and special. What Dr. Bond had now brought forward was a great improvement on that, namely, to approach the teaching centres and even non-teaching hospitals to get them to take this subject up. It would be very difficult to do so, as he believed that scarcely a hospital in this country had not had painful experience of the occasional intrusion of a person of unsound mind into the wards, and then they seemed to have experienced the terror of being in a ship without a rudder. Real progress could only be made on these lines, however difficult it might be to engineer the practical problems which would

arise. The second rather new element in Dr. Bond's paper was that concerning unification, if possible, of the curricula that had been established, and this Association ought to feel very proud of having succeeded in establishing such a curriculum, for it came out of the inner bowels of the Association, by preaching to the great bodies and getting them to institute diplomas. If those bodies could be approached so that they would give to younger colleagues a more definite idea as to time and cost in regard to these diplomas it would constitute a very practical advance.

Sir FREDERICK MOTT, F.R.S., said he had been very interested to hear Dr. Hubert Bond's paper, and he reflected that forty years ago the London County Council, at its inception, proposed the establishment of a hospital for acute mental diseases in London. What became of that? It would be interesting to members of the Association if they would read the report on the subject. For a long time nothing whatever was done towards establishing a mental hospital with a clinic in London. If such had been established, it might by this time have done very valuable work, and have attained to a high position in psychiatry, similar to that occupied by the National Hospital in Queen Square in the domain of neurology. He was glad to see that this Association had changed its views, late in the day though it be, and that it had come to recognise the necessity of such an institution. The late Dr. Maudsley, for whom members had the greatest respect, came to him eleven years ago and offered to furnish the London County Council with £40,000 to build a hospital in London for the purpose of receiving acute mental cases and for the study of psychiatry. It was a long time before the London County Council could find a site, but they did so eventually. The hospital was partly built when the war came, and he was sorry to say that neither Dr. Maudsley nor Mrs. Maudsley—who was a daughter of the Conolly who took the chains off lunatics in England, and Dr. Maudsley was better known in other countries for his work than among his own people—neither of them ever saw the hospital adapted for the purpose intended. That seemed to him to be a great pity. But it had done useful work during the war, and for a time it was to be in the occupancy of the Ministry of Pensions. The London County Council were now anxious to get it back to the purpose for which it was founded—for dealing with cases among the general civilian population. He did not think he was committing a breach of confidence when he said it was hoped shortly to establish a clinic at the Maudsley Hospital, in correlation with the asylums of the London County Council, so that teaching could be carried out in all branches of psychiatry, including the fundamental principles underlying the physiology, anatomy and pathology of the nervous system, somewhat on the lines which Dr. Bond had laid down in his paper. It was intended to get the best men possible in the country to give such lectures. For instance, he hoped to get Dr. Macdougall, Dr. Bernard Hart, Dr. Devine, Dr. Hubert Bond and a number of other men to give the lectures. That course, it was hoped, would be open to all post-graduate students, and all who were qualified in medicine. He thought it was essential that there should be this correlation between the asylums and the Universities—if there were a University town near. Both the University and the asylum would benefit greatly thereby. In Scotland the University had always been associated with the asylum, and he thought that Scotch graduates were better trained in psychiatry than English students were. Tradition had for a long time acted in Scotland beneficially in that way. For some time he was an Examiner in Medicine for the Conjoint Board, and he found that the Examiners in Medicine seldom set questions in mental disease, and consequently the classes in those subjects were rather badly attended. He set a question on adolescent insanity, and, through the kindness of Sir Robert Armstrong-Jones, he had two instances of it brought up—typical dementia præcox. He, the speaker, was afterwards informed that the setting of this question had a beneficial effect on the attendances at the classes in psychiatry. Generally he tried to get a question in on the subject because he regarded it as very important. It might be that after a student became qualified, one of the first cases he would come against would be a mental one, and he would be at sea if he had not had a training in the essentials of psychiatry. He would like to see established clinical-assistantships, giving men six months' experience, and he hoped to carry that out at the Maudsley Hospital, to give men an opportunity to see whether they would like to follow the speciality. With regard to the curriculum which Dr. Bond laid down, life was short, and the extent of modern knowledge very great. He

thought the system at Edinburgh was the best: there it was not hoped to cover the whole range. He thought the best training for men who intended to become medical superintendents of asylums was a good foundation in general medicine, which included preventive medicine. For example, how important were deficiency diseases in the treatment of the insane, *i.e.*, the resistance engendered against disease by a sufficiency of vitamins, and how detrimental their deficiency. With regard to beri-beri, there were known to be two forms. One form did not give any pronounced symptoms, yet there was a lowered resistance to infectious disease. There was a great deal in being able to recognise a disease and knowing what specialist to call in for its treatment. He congratulated Dr. Bond on his paper, in which he laid down the right principles to adopt. Lastly, he wished to say that when an appointment was made to a medical superintendency of an asylum, it should be founded on his knowledge of the specialty, not because he happened to be a good farmer, though he thought it needful and right he should be head of the Institution.

Dr. R. H. STEEN said one point about Dr. Bond's admirable paper, which he was sure all the members felt very grateful for, was that he was preaching to the converted. All in that room realised the need for clinics in psychiatry. The difficulty of those in the specialty was with the general physician and surgeon and the staffs of general hospitals. They were the people who required convincing that mental clinics were required. For many years he tried to get established an out-patient department of this kind at a certain hospital with which he was connected, and from private talks he had with members of the staff of that hospital he gleaned they had the idea that a mental patient was necessarily an acute maniac; they had visions of acutely maniacal persons dancing up and down the corridors. For a long time he was unable to succeed in his efforts, but such a department had now been started, and the other members of the staff seemed very thankful for it. He wished to urge that all teachers of psychiatry—and they were all members of this Association—should make a point of getting established an out-patient department for mental cases in connection with their own particular hospital. He did not mean that they should be altogether satisfied with that, but it would at least be a beginning—the thin edge of the wedge—and later on beds could be set up. It would be found that students exhibited great interest in mental diseases, and they were keen to come to the clinics. Members of this Association could, if they would, do a lot of missionary work by urging physicians, surgeons and consultants generally to insist on the establishment of these special departments in psychiatry.

Dr. MYERS said he would like to point out that a mental clinic had been started at Cambridge. The staff there unanimously favoured the institution of an out-patient clinic, and, thanks to the generous spirit displayed by the Board of Control and the Medical Research Committee, it was possible to send an expert there, and he was now spending his whole time on the out-patient work and in conducting research in psychological medicine. This was so recent that results could not yet be given, beyond the fact that Capt. Prideau had written expressing a fear that he might be swamped by the large number of cases and thus be prevented from doing research work. Possibly some help could be supplied to him. Close association was being established between Addenbrook's Hospital and the Mental Clinic at Filbourne, where the Medical Superintendent, Dr. Archibald, was in full sympathy. At Cambridge the Diploma had not been accompanied by teaching; they had been content to allow candidates for the Diploma to take their courses anywhere, provided they showed sufficient knowledge at the examination. But he agreed with Dr. Bond that every teaching University should aim at providing courses in this subject, so that the candidate possessing the Diploma would be recognised as having passed through a certain school. Dr. Bond's paper showed the need of schools in psychiatry, and the more schools there were, with divergent shades of thought, the better it would be for the advancement of the subject. The Diploma was not instituted until 1912, therefore there had not been a chance of doing much before the war, and the number of candidates had been very small. During the war the Diploma had to be suspended altogether. The question now was as to what could be done to encourage more candidates to come forward for the Diploma. He felt that much could be done in the way of encouragement by the authorities responsible for filling posts in mental hospitals, and by the granting

of leave of absence to men for the purpose of study. But so long as mental hospitals continued to be run "on the cheap," so long would it be impossible to provide facilities for post-graduate education.

Dr. GOOD (Oxford) said it might interest members to know that for two years Oxford had possessed an out-patient clinic for mental cases in connection with the Radcliffe Infirmary, and it was hoped that soon there would be some beds attached. It was not given the name "mental clinic," because that would deter people coming to it. He had been working with Dr. William Macdougall for more than two years, and that gentleman had, unfortunately, now retired. The work was sufficient to keep one employed from 2 o'clock until 8, leaving practically no time for research. People were coming in increasing numbers, and students were taking a great interest in the work. At present there was no degree in psychological medicine at Oxford, though the question had been mooted.

Dr. DEVINE said there was an international side to the question. Some time ago he was associated with an American unit, attached to which was a very clever young neurologist. That officer told him he had been to Queen Square studying neurology, he had been to Oxford and studied physiology under Sherrington, and he asked, "Where do you learn psychiatry in England?" He came from Boston, U.S.A., where some fine work was being done. He had to reply to him, "I do not know a definite centre here, though there are a lot of able men of international standing, and you could go to Wakefield Asylum and see my old chief, Dr. Shaw Bolton." For the sake of our own national credit we should have centres for the clinical study of psychiatry and where it could be studied intensively. The study had been pursued in this country by people under the greatest possible difficulty, with little encouragement. Dr. Shaw Bolton, for instance, did wonderful work in psychiatry, but who had followed it up? There was no school, no centre of instruction. Until centres were established for the intensive study of the subject, so that the needs of those who intended to devote their lives to the subject could be catered for, there would not be real progress in the specialty. Some said psychiatry was a matter of psychology, some that it was a matter of chemistry, still others that it was a question of pathological anatomy. His own view was that it was not any one of these, but all of them. Until they could get at grips with it in the proper way, until teachers, with students under them, could start a tradition and a school, which would develop into a British School of Psychiatry, he did not look for much real progress.

Dr. PEACHEL, commenting on Dr. Steen's remark, said it was not so much the physician and surgeon as the general public whose interest should be aroused in this subject, chiefly through the medium of asylum committees. Therefore he thought it would be a good thing if a *précis* of Dr. Bond's paper could be sent to the various medical superintendents of asylums so that they in turn could hand it to their particular committees. When one was right in the country—as he was himself—one realised the need of getting into touch not only with local medical men, but also with the local hospital, even though it might be one of 100 beds or less. In the way of propaganda very much could be done by that course, and the public would benefit by having early treatment.

Sir ROBERT ARMSTRONG-JONES remarked that, by the courtesy of Dr. Bond, he had had an opportunity of perusing his paper beforehand as he had been unable to arrive in time to hear it read. He considered it was a great advantage that a man of Dr. Bond's eminent position should come to the Association and speak on this subject. He (the speaker) had recently been given an opportunity of starting a mental department at St. Bartholomew's Hospital, and he had been appalled at the lack of knowledge on mental subjects displayed all round. Medical men whom he had met frankly admitted they knew nothing about insanity. How was that hiatus to be filled? He thought a simple method would be to afford to every medical man a chance of seeing in his own neighbourhood a case of acute mania, a case of acute melancholia, of epilepsy, of general paralysis of the insane, of arterio-sclerosis, which could in many cases be modified by treating the chronic elements in it, such as the chronic constipation and dyspepsia. The last speaker mentioned want of sympathy and knowledge on the part of the public. He had himself spoken to people who were on asylum committees and they neither knew nor apparently wanted to know much about the subject. He wanted to see somebody kindle an interest in the matter, and the Board of Control could do this by

trying an experiment of a "field worker," as in America, in one district. This would undoubtedly kindle a public interest in the matter. When people talked about "mental hygiene," what did they mean by that term? They should be told that there were two or three conditions which required to be studied in detail in reference to the incidence of mental disease—alcohol, syphilis and the element of heredity. He (the speaker) would like to see every medical superintendent giving time to this matter in his own neighbourhood and foster the idea that the asylum should be looked upon as the place where people can consult the medical staff. It was very difficult for a senior man to keep himself up to date in cerebral physiology, anatomy, chemistry, and so on, but the junior men could do so, and they would if they were afforded the requisite encouragement by the authorities. They should be allowed leave in order to study. But where were they to study? What was needed was coming by degrees. It was only recently that the Bethlem Royal Hospital had started an out-patient department for cases, and St. Bartholomew's, as he had stated, was another example. It might interest members to hear what kind of cases had, so far, attended the mental department at St. Bartholomew's Hospital. They were congenital epilepsy, some mental defectives, who had to be dealt with under the Mental Deficiency Act, cases of dementia præcox, early cases of general paralysis of the insane, involutional melancholia and manic-depressive insanity, but few of the sex or Freudian abnormalities. Altogether he had been encouraged, and he had the feeling that one could do something for these cases, especially if sleep could be procured for them, and their constipation could be corrected and electric treatment applied. He had seen much good done by cerebral galvanism in the war neuroses at Aldershot. In climacteric trouble, too, static electricity had been beneficial in modifying the blood-pressure. If possible the public must be educated in this matter, and then he felt there would be a move forward to allow medical men in the asylums to carry on this training. It was a deplorable fact that, though five Universities had granted diplomas in psychiatry, there were not five candidates at each, though of course the war had had a deterrent effect. This paper, however, indicated a move in the right direction. If one could come into touch with people at the home, the school and children's courts, where mentally deficient cases came to light because of small offences against social order, much alleviating work could be done. The subject was a most important one.

The PRESIDENT said a letter had been received from Dr. G. A. Auden, of Birmingham, stating how sorry he was that he could not attend, as he had hoped to point out the desirability of making provision for the training of school medical officers in the diagnosis of feeble-minded conditions. With regard to the suggestion of Dr. Peachel, assuming that Dr. Bond's paper would be published in the Journal, the distribution of it to the quarters specified might be effected in that way. It had been decided, earlier in the day, that members of the Association should receive from its officers a letter dealing with the question of propaganda, and this letter could have incorporated in it a brief statement on this subject, and pointing out the willingness of the Association to provide reprints of Dr. Bond's paper, if its author saw no objection, and these could be handed to members of Visiting Committees. That would not cost very much, and the Treasurer had said he did not think the expense of it would be prohibitive. [Col. THOMSON: It would be Greek to many of them in its present form; it would need translation into ordinary language.] As there was no very decided expression of opinion on that point, he thought it might be left over for the present.

Dr. BOND, in reply, desired to express his thanks for the very patient hearing which had been accorded by members to his paper, and the great satisfaction it was to him that the crude form in which the opinions had been laid before the meeting had led to such a kindly and encouraging discussion. As the time was now late, he hoped he might be forgiven if he did not do full justice to what the several speakers had said. All were exceedingly glad to see Col. Lord here. Members knew the immense amount of work he had been called upon to do at the Horton County of London War Hospital, and some time ago it was reported that he was far from well. He agreed with that gentleman that many hard things were said about specialism, some of them, no doubt, just because specialism without a good grounding in general medicine was all to the bad. In the other way, however, it was to the good, and he agreed that concentration upon small departments of their larger work would be the best means of making

progress. He felt grateful for Col. Thomson's remarks, also for the goodwill with which the Colonel allowed him to take up the threads of his own pioneer work. That speaker laid stress on the reluctance of general hospitals to confer facilities for studying mental cases, and in that he was only speaking what was the fact. But if staffs of hospitals based their experience upon the effect of one acute case in their wards, that they should take up a hostile attitude on this question was what one would expect, because the mixture of mental and general cases in the same wards must be profoundly bad for both. One wanted to see them in wards under the same great label as the wards for general cases, namely the name of the general hospital in question. What Sir Frederick Mott said would surely give them food for thought. Some of Sir Frederick's comments sounded as if he took some exception to the formidable nature of the diplomas; but he, Dr. Bond, laid stress himself on not trying to teach too much detail, and upon concentrating upon the "institutes" of the required subjects. Therefore he felt that Sir Frederick and he were at one on the matter. He was also glad Sir Frederick insisted upon particular attention being paid, in whatever teaching psychiatrists were able to do, to the relation of this branch to general medicine, an insistence which, if included in any scheme—and there was a precedent in the case of the diplomas—would probably abolish such terms, which he disliked, as "alienism" and "alienists." Dr. Steen declared that what the paper did was to preach to the converted. He knew Dr. Steen was right in that remark, and in bringing this paper before the Association it was with no such ideas as that the members stood in need of conversion on these points. His hope had been that the reading of the paper here might lead to some decision being taken—by way of the formation of a Committee or any other means—again to carry out propaganda work in this and other places where there appeared to be some stagnation. With regard to the idea of Dr. Peachel that a *précis* of the paper should be printed and circulated to medical superintendents with a view of it getting into the hands of members of visiting committees and others, that was a flattering suggestion, but he thought there should be pause before it was adopted, and that time should be taken for consideration as to the best means of securing progress in our speciality. Still, whatever the Association chose to do with regard to the paper was a matter entirely for them. He desired to express his thanks to Sir Robert Armstrong-Jones for what he had said. It was with great difficulty Sir Robert reached the meeting at all. It was particularly interesting to know that a mental department had been founded at St. Bartholomew's Hospital, with all its ancient traditions. That gentleman was right when he assumed that the object of the present paper was to kindle a wide interest in the subject, not among members of this Association, but among the public. And the point in the letter from Dr. Auden was important. He, Dr. Bond, was not sure that the syllabuses of the different Universities granting the Diploma dwelt sufficiently on the question of mental deficiency, yet it loomed so large now that it might be well to press on the University authorities this Association's opinion as originally expressed in their memorandum—that there should be optional subjects provided for in the Diploma conditions.

IRISH DIVISION.

THE AUTUMN MEETING of the Irish Division of the Medico-Psychological Association was held on Thursday, November 6th, 1919, in the Royal College of Physicians.

Members present: John M. Colles, K.C., LL.D., in the Chair, Lieut.-Col. W. R. Dawson, Drs. Hetherington, Gavin, Nolan, Greene, H. Eustace, Keane, Harvey, Mills, J. O'C. Donelan, Rutherford, and Leeper (Hon. Divisional Secretary).

Before the business of the meeting was proceeded with, it was proposed by Dr. Hetherington and seconded by Dr. Eustace:

"That this meeting of the Irish Division of the Medico-Psychological Association desires to place on record its extreme regret at the loss which the Association has sustained by the death of Dr. Drapes, who was one of its oldest and most valued members, and this meeting expresses itself fully in accordance with the action of the Hon. Secretary, Dr. Leeper, in sending, at the time of the sad event,

to the members of the deceased's family a wreath and letter of sympathy in the name of the Irish Division."

The resolution was passed in silence, the members standing in their places.

The minutes of the previous meeting were read and signed.

It was proposed by Dr. Nolan, seconded by Dr. Mills and passed unanimously:

"That in the appointment of an Editor to the *Journal of Mental Science*, to fill the vacancy occasioned by the death of the late lamented Dr. Drapes, the Irish Division desires unanimously to place the name of Lieut.-Col. Dawson before the Council as a suitable successor and as representing this country."

Dr. MILLS drew attention to the fact that the date of the Summer Meeting fixed in 1920 would possibly interfere with the Annual Meeting of the British Medical Association, and it was decided that the date fixed for the Summer Meeting should again be considered at the next meeting.

Dr. NOLAN next introduced his discussion upon "The Irish Asylum Service and Its Relation to the Ministry of Health Act."

"I venture to introduce this discussion with some degree of doubt, as I am not quite sure that there exists an Irish Asylum Service in a departmental sense, and if there is, that it has any relation to the Ministry of Health Act, at least so far as the Public Health Council in Ireland, as created under that Act, is concerned. In any event, a discussion may help to throw light on many doubtful matters, and possibly be the means of shaping a policy or plan of campaign, to enable this Division of the Medico-Psychological Association to express reasoned opinions as to the future of the Irish asylums, their patients, staff and administration, as well as on allied matters of public health.

"So far it would seem that the attitude of those responsible for the Ministry of Health Act, beyond the mere statement in that Act, that it is to deal with 'the treatment of mental defects,' has shown, as far as I am aware, no disposition to put that clause into effect, and it is remarkable that the opening address of the Chairman of the Health Council contains no reference to mental disease, nor does the Council itself embrace any expert representation of the interests of the insane and the general question of insanity, its prevention, increase, and efficient treatment.

"Possibly all this is being dealt with by the inspectors of lunatics in secret treaty with the promoters of the Act. If so it is in good hands, and any action of this Division will no doubt be in support of and accord with their proposal. But I submit that the matter is one which should be handled openly and above board, and in the first instance by those who have a practical everyday knowledge of the public asylums. Hence, I venture to ask you to-day to consider what bearings this Act may have on those institutions. Personally, I see great potentialities for good, or for evil, and much must be considered before we can see clearly how to secure the maximum of the good and the minimum of evil.

"I do not propose to read you any hard and fast conclusions, but simply to name the points for consideration.

"(1) AS TO INSANITY.

"Pathological research in laboratory work, now optional, to be made obligatory.

"Treatment of incipient insanity by special expert advice, say at several centres in each district.

"Institutional treatment.

"Special specific treatment.

"Boarding-out. Now that conditions of life have improved and labour conditions are so difficult, more toleration would be extended to defectives received into family care.

"(2) THE STAFF.

"Its adequate pay and training. Its status as a nursing body restored by making strikes without notice a criminal offence.

"(3) ADMINISTRATION OF PUBLIC ASYLUMS.

"Augmentation of the grant in aid. Adequate medical staff, with special aid in matters of dentistry, etc.

"Other matters—as to the position and powers of the inspectors, etc., and legal amendments to existing Act, as discussed at the Summer Meeting of the Division at Downpatrick in 1918—might also be included in a Bill.

"It would seem to me, in any event, that it is the clear duty of this Division to formulate a constructive policy of action in all these matters, in the event of any legislative measures which may be proposed later. Any such policy should be well considered.

"I would appeal to the members to treat the matter from a broad, unselfish standpoint, keeping only in view as a goal whatever is in the best interests of the afflicted insane."

A full discussion followed Dr. Nolan's opening statement, in which almost all the members present took part. It seemed to be the general feeling that a strong central controlling body co-ordinating the Irish Asylum Service in the interests of the insane and standardising and improving the treatment and general management of asylums was urgently needed, and should be incorporated into any legislative measure dealing with the same. The various points of Dr. Nolan's paper were discussed and generally approved of. It was finally proposed by Dr. Donelan, seconded by Dr. Gavin and passed unanimously:

"That the Parliamentary Sub-Committee of the Irish Division be directed to consider matters relating to the central control of the asylum service and any cognate matters, and to furnish a report to the Irish Division at its next meeting, and that the names of Dr. Colles, Dr. Greene and Dr. O'Doherty be added to the Irish Division's Parliamentary Sub-Committee."

The HON. SECRETARY mentioned that Dr. Eustace kindly invited the Division to hold its Spring Meeting at Hampstead House. Dr. Eustace's invitation was accepted with thanks.

NORTHERN AND MIDLAND DIVISION.

THE AUTUMN MEETING of the Northern and Midland Division was held by the kind invitation of Dr. A. J. Eades at the North Riding Asylum, Clifton, York, on Thursday, October 30th, 1919.

The President, Dr. Bedford Pierce, presided.

The following fourteen members were present: Drs. G. L. Brunton, A. J. Eades, S. Edgerley, C. L. Hopkins, G. R. Jeffrey, W. S. Kay, R. M. Ladell, H. J. Mackenzie, H. D. MacPhail, J. Middlemass, J. E. Middlemiss, B. Pierce, J. B. Tighe, T. S. Adair; and three visitors—Drs. H. J. Drake-Brockman, J. Lowther and L. R. Oswald (Scottish Division).

Apologies for non-attendance were received from several members.

The minutes of the last meeting were read and confirmed.

A ballot was taken for Henry George Drake-Brockman, M.R.C.S.Eng., L.R.C.P.Lond., Assistant Medical Officer, the Mental Hospital, Middlesbrough. Proposed by Drs. Geddes, Hopkins and Adair as an ordinary member of the Association, and he was unanimously elected.

On the proposal of Dr. Eades, seconded by Dr. Middlemass, Drs. S. R. MacPhail and Bedford Pierce and Major Street were unanimously re-elected to form the Divisional Committee for the next twelve months.

CONTRIBUTION.

Dr. G. RUTHERFORD JEFFREY then read a paper entitled "Notes on Three Cases, showing the Value of Hypnosis and Suggestion as an Aid to Treatment." The first case was that of a lady who was suffering "presumably from mania associated with gestation." She broke down mentally from worry and was very restless and exalted. She was hypersensitive, and as her condition "was only a passing emotional storm" it was thought it might be checked if her mind could be "completely calmed." She was put under a light hypnosis and it was suggested to her that she "would sleep all right and awaken feeling well." She slept for nine hours and awoke feeling much better. From this time she steadily improved and made a good recovery. The second case was one in which a distressing

symptom, *vis*, the "most frightful desire to injure his wife and children," was made to disappear by suggestion with the aid of hypnosis. Though the patient, who was neurasthenic and depressed, was not cured, he entirely lost the idea, and, indeed, would hardly believe that it had ever existed. The third case was one of neurasthenia and shell-shock in an officer who had on two occasions been blown up and buried. He fell in love with a girl, and after behaving rudely to her mother was told that the parents did not wish to have anything more to do with him. This worried him and "aggravated all his neurasthenic symptoms." He could not bring himself, however, to write and apologise and accept the decision. He was put to sleep under a light hypnosis and a suggestion was made to him that he should write. On awakening he immediately put this into effect before attempting to do anything else. After this he certainly improved.

The first case is really one of "marked emotionalism," and shows how the patient's mind righted itself after being put into a "condition of blank and calm." The second shows how a distressing obsession can be got rid of, and the third indicates that a "persistent 'aboulia' causing a more or less severe mental paresis" can be abolished by suggestion. Dr. Jeffrey says that, from his experience, he is "convinced that hypnosis and suggestion treatment have an important therapeutic place in the treatment of the psycho-neuroses," and that "given a suitable case it is worthy of trial."

An interesting discussion followed, in which most of the members present took part.

Dr. PIERCE made some reference to forthcoming changes in lunacy administration, and this was followed by a talk about the nursing examination and the effect that the altered conditions of asylum work might have upon it.

The following resolution was then proposed by Dr. MIDDLEMASS, seconded, and unanimously carried, that "in the opinion of the Northern and Midland Division of the Medico-Psychological Association the question of the revision of the Handbook should now be considered by the Education Committee with a view to its improvement in certain parts; at the same time this Division is of opinion that the present standard of teaching and of the examination for the nursing certificate of the Association should not be reduced."

A very interesting and enjoyable meeting was brought to a close, a hearty vote of thanks having been accorded to Dr. Eades for his kind hospitality.

SOUTH-WESTERN DIVISION.

THE AUTUMN MEETING of the above Division was held at University College, Bristol, on Friday, October 24th, 1919, at 2 p.m.

The following members were present: Drs. Brown, Devine, Eager, Lavers, Mules, MacBryan, Nelis, Soutar and Thomas, and the Hon. Divisional Secretary (Dr. Bartlett).

Dr. Soutar was voted to the Chair.

Letters of regret for non-attendance from Drs. Aveline and MacDonald were read.

Dr. Bartlett was nominated as Hon. Divisional Secretary.

Drs. MacBryan and Soutar were nominated Representative Members of Council.

Dr. Devine very kindly extended an invitation to the Division to meet at the Portsmouth Mental Hospital, April 23rd, 1920.

The Chairman alluded to the loss the Association had sustained in the recent deaths of Dr. Mercier, Dr. Drapes and Dr. Wigglesworth, which were all recorded with deep regret by all members present.

Dr. Eager then read his paper on "Head Injuries in Relation to the Psychoses and the Psycho-neuroses."

The CHAIRMAN expressed the unanimous appreciation by the audience of the able work of Dr. Eager in this valuable record of the after-effects of head injuries.

Drs. SOUTAR, DEVINE, LAVERS and BARTLETT joined in the ensuing discussion.

SCOTTISH DIVISION.

A MEETING of the Scottish Division of the Medico-Psychological Association was held in the Royal College of Physicians, Queen Street, Edinburgh, on Friday, November 21st, 1919.

Present: Drs. Buchanan, Clarkson, Crichtlow, Fraser, Henderson, Hotchkis, Kerr, Macdonald, T. C. Mackenzie, Tuach Mackenzie, G. D. McRae, Orr, G. M. Robertson, Ford Robertson, Maxwell Ross, Shaw, Skeen, H. Yellowlees, and R. B. Campbell, Divisional Secretary.

Dr. G. M. Robertson occupied the Chair.

The minutes of the last Divisional Meeting were read and approved, and the Chairman was authorised to sign them.

The SECRETARY intimated apologies from Drs. D. G. Thomson, Bower, Easterbrook, Dods Brown, Ross, Steele, Ferguson Watson.

The Business Committee was appointed, consisting of the nominated member, the two representative Members of Council, along with Dr. G. M. Robertson, Dr. D. K. Henderson, and the Divisional Secretary.

Drs. T. C. Mackenzie and G. Douglas McRae were nominated by the Division for the position of Representative Members of Council, and Dr. R. B. Campbell was nominated for the position of Divisional Secretary.

The following candidate after ballot was admitted to membership of the Association:

Ian D. Suttie, M.B., Ch.B. Glasgow, Assistant Medical Officer, Glasgow Royal Asylum. Proposed by Drs. Oswald, Henderson, and Campbell.

The SECRETARY submitted a letter from the President of the Association suggesting that the Scottish Division should nominate a representative from Scotland to act as Chairman of the Educational Committee, and the Division unanimously resolved that Dr. L. R. Oswald be nominated for the position. As Dr. Oswald was not present at the meeting, it was resolved that in the event of his not seeing his way to accept office, Dr. G. M. Robertson should be nominated in his stead—Dr. Robertson consenting to do so.

Dr. FORD ROBERTSON read an interesting and very instructive paper on "The Relation of Infections to Mental Diseases," which was followed by a discussion, in which several members took part.

Dr. MACDONALD referred to the importance which the National Asylum Workers' Union had placed on the teaching and training of the Nursing Staffs of Asylums, and he suggested that, in view of the high wages now paid nurses and attendants, the entrance fees for the examinations for the Association's Nursing Certificate should be increased.

After some discussion it was unanimously resolved to instruct the Secretary to send a Resolution from the Division to this effect to the Secretary of the Educational Committee.

Dr. G. M. ROBERTSON referred to the objections which the National Asylum Workers' Union had raised regarding the employment of female nurses in male wards of asylums, and in view of the probability of the Union taking action in the matter, it was unanimously resolved to draft a Memorial in support of the existing method of employing female nurses to nurse suitable male cases, and that all medical men interested in the treatment of mental diseases in Scotland should have an opportunity of signing the memorial before sending it to the General Board of Control, District Boards of Control, and Royal Asylums Boards.

A vote of thanks to the Chairman for presiding terminated the business of the meeting.

A dinner, after the meeting, was held in Messrs. Ferguson and Forrester's, and was well attended.

THE LATE DR. CHARLES ARTHUR MERCIER.

Sir GEORGE SAVAGE writes:

I feel that in some ways the characteristics of Mercier were better understood by the general public than by the medical profession, and better by the medical press than by our specialist journals, yet I believe it is due from us to record our personal regard for Mercier and our regret at his death.

Indirectly, Mercier's name came under my notice when he was a student at the London Hospital. My father-in-law, Dr. H. G. Sutton, whose medical clerk I believe Mercier was, spoke of his ability, but also of his unbounded self-assertion, for he had the audacity to go round the wards and alter some of the physician's prescriptions. From a student who would do this a good deal might be expected.

Dr. Mercier began his association with insanity by becoming Assistant Medical Officer at Stone, The City Asylum, near Dartford, in 1882. He was there till March, 1885. His senior was altogether unlike Mercier and their relationships were not cordial. Mercier was the student and was not distinguished in sports or social duties. The incompatibilities increased and Mercier gave up his post, and in a short time arrived at consulting work. He became Resident Physician at the Flower House, Catford, a private asylum which had belonged to the Winslow family.

Here he was more in his element; the house and grounds were attractive and the patients not numerous. His genial and friendly relationship with the patients gave him his deep insight into disordered states of mind, which is such a marked character of his writings.

He was greatly influenced by the teaching of Hughlings Jackson, who, in turn, was the follower of Herbert Spencer. As a writer on psychological subjects he must be compared with Maudsley, whose life work was so similar to that of Mercier, and whose books have such a remarkable parallelism in titles and subjects to his.

Though polished and clear, the writings of Mercier will not, in my opinion, remain as medical classics as have those of Maudsley. Mercier had the strength of his failings. He was a perfect bulldog in his pertinacious hold of his own ideas, and these were not always true. Take, for example, his tiresome insistence on the distinction between insanity and unsoundness of mind. He had for twenty years or more an obsession that he alone had recognised this though it was more than once made clear that this was not the fact.

He was a most prolific writer and a very able speaker. I knew him as a member of the Casual Club, a social club where any and every subject was discussed—certainly without any regard to the private feelings of previous speakers. The discussions were as a rule carried on vigorously but without loss of temper. Mercier was at his best here.

Whether later in the Journal some special articles appear on his literary labours must rest with the Editor, but it is a task not to be readily undertaken. A rather wild suggestion might be made that for a Maudsley lecture the parallelism between the two be studied.

For the past few years one has looked upon Mercier as a kind of hero, for one recognised that he knew he was fated and that nothing could stop the fatal issue of his disease, yet with superb pluck he stuck to his work and seemed still as briskly combative as ever. He has left a great gap in our ranks, and with reverence we leave him.

November 28th, 1919.

DR. H. DE M. ALEXANDER, Medical Superintendent, of Kingseat Mental Hospital, Aberdeen, writes: "In your last number of the Journal you ask for any 'recollections' of the late Dr. Mercier. He was good enough to bother writing to me sometimes, and the enclosed extracts—though they possibly are not what you want—are rather typical of him. Like others I have more characteristic remarks of his, but they are personal."

"Relative to the absence of an index in the second edition of his text-book: 'As to the index, let me confess that my querulous remarks were dictated partly by laziness and detestation of the task of making an index, and partly by annoyance at the laziness and inefficiency of those reviewers, and they are the majority, who form their opinion of a book from reading the preface and looking at the index. If I must be honest and frank, I have been abominably annoyed and have been made to waste much time by the absence of the index in that very book.' (*June 28th, 1917.*)

"I believe one reason my Text-book does not sell is that it is only crown 8vo in size; students like a good pretentious-looking book, and plenty of paper for

their money. What is printed on the paper does not much matter, so long as there is plenty of paper." (*September 24th, 1917.*)

"Imbecile *v.* Feeble-minded: 'The imbecile is distinguished from the feeble-minded by this—that the feeble-minded can, and the imbecile cannot, under efficient supervision and control, earn enough to keep body and soul together. When controlled and supervised his labour has this market value. The labour of the imbecile costs as much or more in supervision and control than the product will bring in the market.' (*June 21st, 1917.*)"

SIR JAMES CRICHTON-BROWNE AND THE MAUDSLEY LECTURE LETTER OF ACCEPTANCE.

CRINDAU,
DUMFRIES, N.B.;

August 7th, 1919.

DEAR MAJOR WORTH,—I am much gratified by the invitation of the Medico-Psychological Association which you have conveyed in such kind terms, and shall be glad to deliver the first Maudsley Lecture in London in May, 1920.

I am keenly conscious that there are many who are much more capable than I am of representing the most advanced stages of that movement in mental science which Maudsley did so much to inaugurate in this country, but I have this qualification—and it is that no doubt that has procured me your honouring invitation—that I was a contemporary worker with him in the field which he so intensively cultivated from the beginning to the close of his career.

Believe me,

Yours very faithfully,

(Signed) JAMES CRICHTON-BROWNE.

Major R. WORTH, M.D., etc.

IMITATIVE SUICIDES.

IN the course of a recent inquest Dr. F. J. Waldo, Coroner of the City of London, made some interesting observations on the imitative factor in the causation of suicides. He pointed out that, as was his custom, he had merely read in court two or three material, relevant lines from the bulky correspondence found on the body of the deceased. The jury and others interested in the case had had an opportunity of perusing the documents in full. The reading of details in court led to their publication by the press, which not only gave pain and distress to the relatives, but, he believed, often led to further suicides by suggestion and incitation. For example, a short time ago three brothers, one after another, took their own lives by placing their heads in the same stove with the gas turned on. A lessening in the number of suicides would undoubtedly follow the suppression by the press of detailed reports of sensational and "interesting" cases of suicide. If any class of case might advantageously be held in private by Coroner and jury to the exclusion of the press and other members of the public, he thought it was that of a certain number of selected cases of suicide. He did not for a moment suggest, for instance, that cases in which the good name of an individual was at stake should be held other than in the presence of press and public. The return of weapons, such as pistols, knives, ropes, etc., by which suicide was accomplished, to relatives also in some cases acted injuriously by suggestion and incitation. Dr. Waldo added that he was a great believer generally in the usefulness of the full publicity of the Coroner's court, and he trusted that before long the pre-war constitutional and uniform method of sitting in all cases of inquisition with a jury would be resumed.—*Medical Officer*, October 25th, 1919.

TUBERCULOSIS AND INSANITY.

BOTH INCREASED BY WAR DISEASE.

Recent reports of health officers and others call attention to the fact that tuberculosis is increasing. There are various explanations, but most of the ones which we have seen are vague and unsatisfying. At the same time, we are told from other quarters that insanity and functional nervous disorders are on the increase also.

So far as can be gathered, both these fears are justified by the event. The point that arises and must be considered is whether there is any connection between the two phenomena. Is the increase of tuberculosis due to the same causes as the increase of insanity? Or are the evils without relationship one to another?

Some time ago a writer who adheres to what, for convenience, is spoken of as the New Medicine, ventured to prophesy that both tubercle and insanity would increase after the war. He based his prophecy on the following considerations:

A vast number of men and women have in these last years become infected by diseases which from their nature are very difficult to eradicate. These diseases, which include malaria, dysentery, trench fever, the typhoids—in some cases—and venereal diseases, act as chronic poisons. The poisons probably exert a specific effect on the nervous system. The result is that the level of bodily expenditure on any given effort is raised and the victim tends to fall into a state of exhaustion.

If he is not cured he remains in this state of exhaustion and exhibits marked neurasthenic symptoms, weakness, instability, mental weariness, and so on. Bit by bit the "margin of safety" which protects from disease, whether of the body or the mind, is worn away.

Now it seems to be the case that tubercle does not in most instances seat itself in a healthy soil. It tends to follow other infections when the resistance of the patient is low. It tends to ameliorate when the bodily resistance is raised against it.

REDUCED HEALTH MARGIN.

In the same way traits of mental instability, which may be hereditary or acquired, do not tend, as a rule, to show themselves until some secondary factor has reduced the margin of safety represented by health. In other words, at some given point of weakness and exhaustion, a man, apparently mentally sound, may uncover his predisposition and become insane. The healthy man is able by the exercise of his will to restrain the impulse which would unseat his reason; the sick man is not so able. The insanities of the puerperium may be taken as illustrations of this.

Consequently the victim of war disease—and his number is legion—is more liable to attack than his uninfected neighbour. Tuberculosis and insanity may both assail him with a probability of success which did not exist before he fell a victim. He is, in a medical sense, a fortress the outer fortifications of which have fallen.

The matter is important from the point of view of pensions. In cases in which tubercle has begun since demobilisation the victim is entitled to an inquiry into his history during the war. If it is found that he is infected with a disease of war in addition to his consumption—and this is by no means as rare as might be thought—he is entitled to relief. The same thing applies in the case of insanity.—*The Times*, September 8th, 1919.

CARE OF DEFECTIVES.

ESTIMATES OF £1,660,000.

In a memorandum issued yesterday on expenditure likely to be incurred under the Mental Deficiency (Amendment) Bill, it is stated that it appears probable that if full use were made of the Act during the next five years provision should be made for the maintenance in institutions or under guardianship of about 21,700 defectives. It is estimated that the average annual cost of maintaining defectives in institutions will be about £60 a head. The total sum required, therefore, will

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be about £1,300,000, with another £100,000 for administrative expenses. Of this amount half, or £700,000, will be refunded to the local authorities from the Exchequer. The whole of this sum will not be required at once, but may reach the estimated figure in about five years' time. It is estimated that in Scotland provision should be made for the maintenance of about 4,000 defectives, and the cost of these at £60 a head and other items is expected to aggregate about £260,000, of which half will be repayable from the Exchequer.—*The Times*, November 27th, 1919.

APPOINTMENT.

STEEN, ROBERT HUNTER, M.D., M.R.C.P.Lond., Out-patient Physician for Psychological Medicine, King's College Hospital, Denmark Hill, London.

ERRATUM.

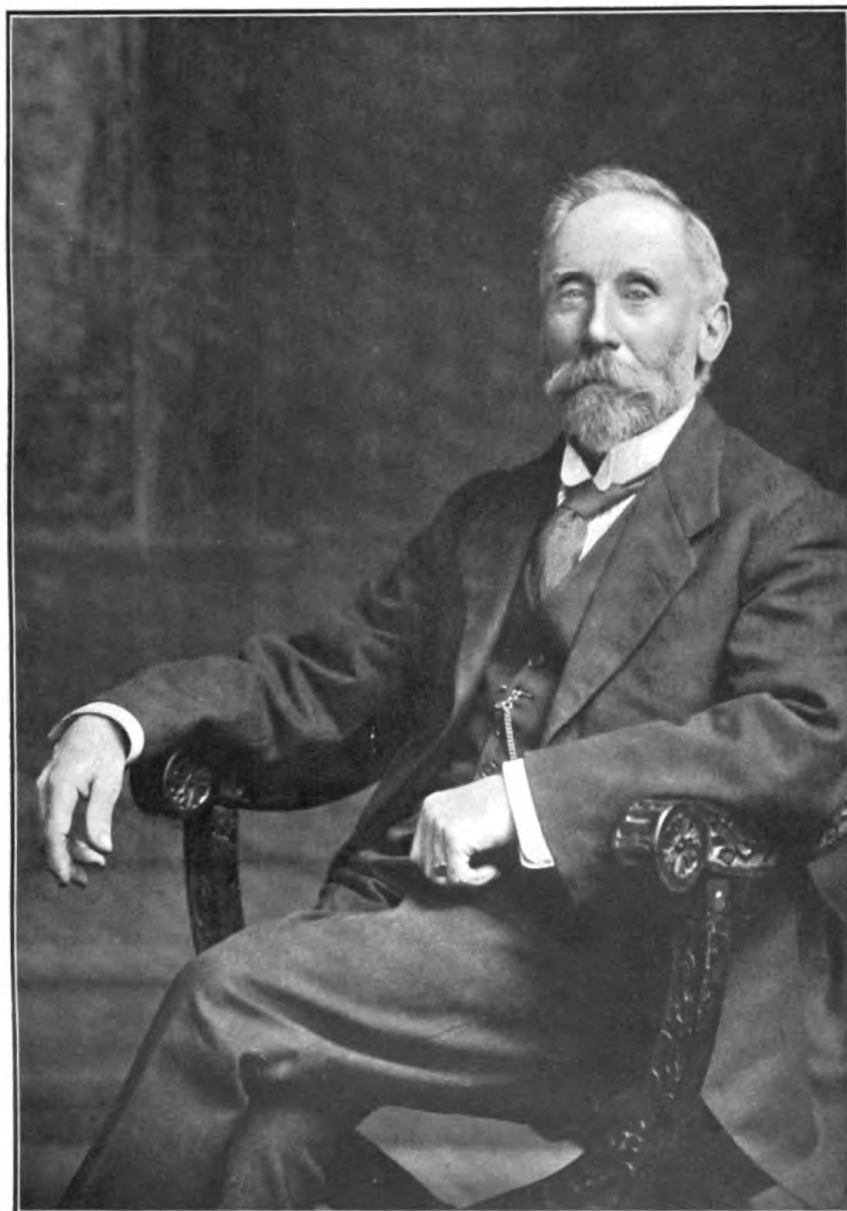
The 67th Annual Report of the Inspectors of Lunatics (Ireland) for 1917: A correction.—Page 264, line 47, the reviewer has made an error in the column of the table referred to. The figures quoted refer to deaths; 8·8 *per cent.* is the percentage of deaths on the daily average.—EDS.

NOTICE TO CONTRIBUTORS.

N.B.—The Editors will be glad to receive contributions of interest, clinical records, etc., from any members who can find time to write (whether these have been read at meetings or not) for publication in the Journal. They will also feel obliged if contributors will send in their papers at as early a date in each quarter as possible.

Writers are requested kindly to bear in mind that, according to LIX(a) of the Articles of Association, "all papers read at the Annual, General, or Divisional Meetings of the Association shall be the property of the Association, unless the author shall have previously obtained the written consent of the Editors to the contrary."

Papers read at Association Meetings should, therefore, not be published in other Journals without such sanction having been previously granted.



THOMAS DRAPES, M.B.Dubl., L.R.C.S.I.

Obiit October 5th, 1919.

President-Elect 1910-11.

Co-Editor of JOURNAL since 1912.

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THOMAS DRAPES, M.B.DUBL.

B. 1874: D. 1919.

ANOTHER outstanding figure has gone from the ranks of British alienism with the passing of Thomas Drapes, which still arouses a feeling of sorrowful surprise; for so little apparent change had the years brought in his active, cheerful personality that all confidently expected for him an extended period of useful and happy life in the leisure he had so well earned and was so capable of enjoying. *Sed dis aliter visum.*

Thomas Drapes was the third son and namesake of the late Dr. T. Drapes, of Cavan, where he was born at Lakeview, his father's residence, on January 17th, 1847. The period was that of the terrible Irish famine, and he was no more than seven months old when his father succumbed to an attack of the epidemic fever which followed it.

Having disposed of her property in Cavan, Mrs. Drapes brought her family to Kingstown, and there, after a period at a preparatory establishment in Derbyshire, Dr. Drapes completed his early education at Mr. Wall's private school. From this he passed, in 1864, into Trinity College, Dublin, graduating in Arts in 1867 with the class of Respondent at the B.A. examination. Having decided on the profession of medicine, he studied at the Trinity College Medical School and at the City of Dublin Hospital, distinguishing himself by taking first Medical Scholarship at the former in 1869, and the Purser Studentship and Clinical Medal at the latter; and he finally proceeded to the degree of M.B. in 1871, in which year he also took the Licence of the Royal College of Surgeons in Ireland, and the Licence in Midwifery of the Rotunda Hospital. Immediately after, while on a short holiday with friends in County Wexford, he learnt that the post of Visiting and Consulting Physician to Enniscorthy Asylum was vacant, was induced to apply, and on March 21st he was duly appointed. With this post as a starting-point he commenced a general practice in Enniscorthy, which gradually increased to large dimensions, so that

he was able to marry in 1875, his wife being a member of an old Enniscorthy family, the Prestons of Salville. In 1883, however, the position of Resident Medical Superintendent of Enniscorthy Asylum fell vacant on the death of Dr. Joseph Edmundson, and Dr. Drapes, deciding to become a candidate, was elected on September 4th of that year. Thenceforward until his resignation last May he managed the affairs of that important institution with a success to which those connected with its administration have borne testimony. As in most asylums at that period, the accommodation and equipment of the Enniscorthy institution left a good deal to be desired, and Dr. Drapes speedily induced the managing body to initiate a series of improvements, as the result of which the buildings were enlarged by the addition of two new wings, a laundry, and a kitchen, while the interior of the older part was remodelled and improved. As time went on other matters received attention. A new system of drainage was installed, as well as a new water supply and a general heating plant, while in comparatively recent times wise advantage was taken of an opportunity of purchasing a derelict mill, which rendered it possible to supply the asylum with electricity for lighting and power purposes at a very economical rate. Although the structural improvements effected during Dr. Drapes' period of office involved considerable expenditure, there is no doubt as to their wisdom and necessity, and it has been well stated that the manner in which they were carried out "will long remain a monument to his prudence, foresight, and remarkable business capacity." Meanwhile the training of the staff in the proper care of the insane was not neglected, while in his dealings with the members he always showed not only a desire to secure efficient performance of duty, but also a kindly solicitousness for their welfare which rendered the relations between them of a peculiarly friendly character. This was acknowledged on his departure from the asylum by a valuable presentation; and when the sad news of his death came, it may safely be said that, outside his family and personal friends, no more sincere regret was felt than amongst those who had been his subordinates.

But structure and administration are but means to an end, and, though successful in these directions, Dr. Drapes was always first and foremost a physician; and it was in his personal and professional relations with the afflicted beings who passed through his hands that the bent of his mind and character were most conspicuously shown, while the unfailing kindness and conscientious care which characterised his attitude to his patients were no more conspicuous than the keen medical and scientific interest which marked his observation and treatment of the forms of disease from which they were suffering.

On his appointment as Resident Medical Superintendent he joined the Medico-Psychological Association, and it is not too much to say

that his intimate connection with that society, which brought him into touch, not only with the alienists of Ireland, but also with the leading members of the specialty in Great Britain, afforded him some of the happiest moments of his life, while providing opportunities for the expression and discussion of his views which were advantageous both to himself and his fellow-members. In his first paper read before the Association he dwelt on the difficulties which beset the medical officer of a country asylum who desires to keep abreast of the progress of science and so to do his best for his patients; and there can be no doubt that it was his constant effort to carry out in practice the very practical suggestions which were there made for overcoming them. During his whole career he continued an active member, contributing to the *Journal of the Association* a series of valuable papers on the statistical, clinical, and other aspects of his subject, which were marked by careful observation, clear reasoning, and lucidity of expression, as well as other useful work in the form of reviews; while at the various gatherings of the society his genial presence, no less than his alertness of intellect and ready power of fluent speech, made him a welcome figure. It was therefore natural that the Association should eventually mark their appreciation of him and his work by choosing him for the highest office in their gift, that of President, which he should have held during the session 1911-12. Unfortunately his health in the spring of 1911 gave so much anxiety that he felt obliged to withdraw, but he was able to attend the annual meeting at Dublin in July, 1911, and contributed to its success by reading an excellent paper on "The Personal Equation in Alienism." In the following year (1912) it was felt that fuller advantage should be taken of his literary ability, and he was unanimously elected Co-Editor of the *Journal of Mental Science*—a choice which was more than justified in the years that followed. Up to midsummer, 1915, his editorial duties were mainly routine, except for one or two occasional articles; but at that time the Senior Editor, Dr. Lord, having taken a commission, was obliged to relinquish work on the *Journal* owing to his military duties, and thenceforward until the end of the war Dr. Drapes had sole responsible charge, though well supported by the Assistant Editors. Both his mental endowments and his training peculiarly fitted him for such work, for with accuracy, punctuality, and conscientiousness he combined a thorough knowledge of English and a sound working acquaintance with French and German, while his keenness and quickness of intellect must have rendered editorial routine easier for him than it would have been for many.

In his views on the disputed questions of psychology Dr. Drapes' tendency was in the direction of conservatism, and in addition he was too clear and honest a thinker to accept without question new opinions, no matter how eminent the authority by whom they were advanced.

Thus he never could bring himself to adopt the doctrines of Kraepelin, to many of which he was in outspoken opposition, and his attitude to psycho-analysis may probably be accurately judged from a statement in the prefatory note to his translation of Delage's *Une Psychose Nouvelle* (published in the *Journal of Mental Science* of January, 1917), to the effect that Freudism "in the view of many sober thinkers is, in much of its theory, scientifically unsound, and at least capable of becoming demoralising in practice." With the philosophic position of Maudsley, however, he was to a great extent in sympathy, his desire for orderly system and definiteness of thought inclining him, as it did many able men of his period, in the direction of a materialistic conception of mind. He was not, however, disposed to go as far as his leader, and he found it possible to reconcile a material attitude towards scientific truth with adhesion to the essential doctrines of Christianity, if we may judge from the fact that he took an active interest in the work of the Church of Ireland in the parish and diocese in which he lived.

For the various spheres of activity to which allusion has been made by no means exhausted the interests of his many-sided mind. Thus he served on the Synod of his diocese, as well as holding other Church offices, and he took a particular interest in temperance work; while his love for music—he was at one time a good pianist—led him to act for thirty years as secretary of the local Choral Union, the members of which marked their gratitude to him by a handsome presentation on his leaving the district. He was also no mean photographer, was interested in chess, and was a keen croquet player and an occasional golfer; and he took his part in all the social life of the neighbourhood, his geniality and sense of humour making him a most pleasant companion and winning him numbers of friends, to whom his loss has brought unfeigned sorrow.

Although, beyond some degree of deafness, the passing years seemed to have little effect upon him, there can be no doubt that a certain fatigue was making itself felt, which was probably accentuated by the multitudinous anxieties and occupations of the last five years, and lately by the spread of the general industrial unrest to the staffs of asylums, though happily at Enniscorthy tact and good feeling rendered it possible to avoid a strike, such as unfortunately occurred in some other institutions; and when, with the approach of the County Council elections, it became evident that the new Asylum Committee would differ in many respects from that under which he had worked on such friendly terms for so many years, he decided that the time had come for him to give place to a younger man, and he severed his long connection with Enniscorthy Asylum on May 15th, 1919.

Great as the wrench must have been in leaving the place with which

he had been associated for nearly half a century, the rest and relief from responsibility gradually produced their effects, and even shortly before his death it was noticed how well he was looking. His new house and its arrangements provided him with pleasant interests, and his connection with the Medico-Psychological Association and its Journal kept him in touch with lunacy matters, and enabled him still to do useful work in the cause of the mentally afflicted. At the annual meeting of the Association at York in July, 1919, he was his old cheerful self, and his many friends there little thought that they had seen him for the last time.

All went well until the death of his brother-in-law rendered it necessary for him to return to Enniscorthy at the end of last September, and on the journey he contracted a chill which after his return home developed into double pneumonia, and brought his life to a close on Sunday, October 5th, 1919. His widow, a daughter and four sons remain to mourn his loss. Their grief has been shared, not only by his close personal friends, but by the committee of his asylum, his subordinates on the staff, and all, it is not too much to say, with whom his varying activities brought him in intimate contact.

Dr. Drapes, as has been said, succeeded as an administrator, but he was first and foremost a physician, and amid so many calls upon his time he never failed to keep up with the advance of knowledge, not only in his own subject, but in general medicine. Had his lot lain elsewhere, the quickness and lucidity of his intellect and his ready power of expression with voice and pen would have rendered him an admirable teacher, and there is little doubt that he would have taken a position at least more conspicuous in the world's eyes than that which he was called to fill; but it may well be doubted whether such a position would have given him greater happiness in his life, while it could not have increased the respect and affection in which he was held. An upright and honourable gentleman, as free as a man may be from self-seeking and self-assertion, quiet and unassuming in manner despite his knowledge and attainments, cheerful, humorous, hopeful, ready to do what he could for all, he was, as has been well said, "one of the kindest, straightest, and most loyal friends a man could ever have," and he leaves a memory which any might envy.

W. R. DAWSON.

Part I.—Original Articles.

The Identity of the Psychoses and the Neuroses. By JOHN MACPHERSON, C.B., M.D., F.R.C.P.Edin, Commissioner of the Board of Control for Scotland.

HALF a century ago Maudsley wrote ⁽¹⁾ "A pregnant but very difficult question of which little or no thought has ever been taken by writers on insanity is—What is the cause of the particular form which the disorder takes in a given case? Why does it assume one complexion rather than another? At the outset it is certain that what appears to be the same cause shall occasion different forms of insanity in different persons and even in the same person at different periods of life, and that the same form of disorder shall be produced by different causes; this being so it is plain that the special determining conditions lie hidden in that unknown region which we call by such names as 'temperament' and 'idiosyncrasy.'"

If these questions, which have all these years remained unanswered, have not been brought nearer a solution by the medical lessons of the war, the scope of their inquiry has at any rate been broadened. We have learnt that a uniform group of powerful emotions, coupled in a certain proportion of cases with unusual strain, can be the exciting cause of the appearance of the symptoms of both the neuroses and psychoses; that no new forms of the neuroses or psychoses have been produced as a result of the war; that war neuroses and psychoses depend in the majority of cases upon an inborn temperamental neurotic disposition—in other words that they were not caused, but revealed or accelerated by war conditions; that neurasthenia and the so-called psycho-neuroses may pass into definite forms of the psychoses; that the mode of origin, course and termination of the war neuroses and psychoses are in the main similar; and that the majority of cases of war psychoses have been successfully treated and tended towards recovery without recourse to the legal formalities established for the protection of the sane and the insane.

Twenty-five years ago my respected teacher, the late Sir Thomas Clouston, assumed the identity of the psychoses and the neuroses in his Morison lectures entitled "The Neuroses of Development." The scope of these lectures embraced epilepsy, hysteria, and his own adolescent insanity—later on differentiated by Kraepelin into mania-melancholia and dementia precox.

Clouston emphasised the relationship of the psychoses and neuroses mainly on the ground of their developmental origin, and did not push the analogy further. Had his creative mind been earlier directed to the consideration of the subject he might probably have enunciated more far-reaching conclusions. To him, however, belongs the merit of having first proclaimed this identity.

Ten years later I had the privilege of delivering the Morison Lectures and chose as their title "Variation in Relation to the Origin of Insanity and the Allied Neuroses." The thesis proved sufficient so far as mental defect and the neuroses were concerned, but when the point was reached of applying it to the insanities my vision of the problem failed me. This failure, I now see, was due to the prevailing conception of the term "disease" as applied to the insanities—a conception which has never been called in question, although unconsciously we differentiate its use when we think of different forms of insanity. That is to say, while we apply the term "disease" in an equivalent sense to acute mania and typhoid fever, we either do not apply it or apply it in a different sense when we refer to congenital mental defect.

In the ordinary work of our specialty we see, as a rule, only the more pronounced and advanced forms of mental disorder, which we designate "mental disease." The designation is justifiable in a medical sense so far as concerns the profound mental and bodily disturbances which accompany the acute psychoses; but there are milder forms of the psychoses which never reach mental hospitals and whose symptoms do not, as a rule, suggest to the lay mind the existence of mental disorder. The concentration upon one—the more severe—group has certain disadvantages: it prevents a comprehensive and comparative view of the whole field of morbid psychology; it tends to the setting up of an artificial barrier, inside which are the mentally "diseased" with their physicians and attendants, and outside of it the subjects of the unrecognised psychoses, the medical profession, detached and uninterested, and the general public, who manifest an instinctive dislike to everything labelled "insanity." The remedy for this state of matters is the education of the medical profession; but the educators are on one side of the barrier, and they must as a first step come over and investigate the forms of mental disorder which undoubtedly exist in the outer world. It is true that such accomplished authorities as Morel, Pritchard and Maudsley—to name three out of several—did recognise this outer field of morbid psychology, but except that they mention mental depression and hallucinations they refer to its other manifestations vaguely as eccentricity, immorality, vice, and even genius.

In order to appreciate the extent to which unrecognised mental disorder exists in the general population one must possess psychiatric experience and have the opportunity and desire to observe. Given these conditions it should be possible to detect, almost anywhere, mental defect, intellectual or moral; the various forms of mild dementia præcox or the terminal stages of that disorder; the periodic emotional oscillations or the recurrence of mild depression or mild exaltation which characterise manic-depressive insanity; or the unfounded suspicions, the delusions, the aggressiveness and the vindictiveness which

indicate paranoia. The aberrations of conduct which accompany these mental disorders are usually attributed to moral rather than to pathological causes. For instance, alcoholic and sexual irregularities are commonly associated with the exalted phase of the manic-depressive syndrome; in the depressed or lucid intervals of the disorder the same subjects may be models of good behaviour. If, however, the pathological condition is not recognised, misconduct falls to be explained on other grounds. The aimlessness, the inefficiency and idle habits in the milder forms of dementia præcox, the incompetence or immorality in mental defect and the unreasoning aggressiveness in paranoia are all unrecognised and misinterpreted.

The milder forms insensibly merge, by gradation, into the pronounced forms, so that at one end of the scale we see conditions unattended by physical disability, and such a slight degree of mental disturbance that it escapes recognition and is usually interpreted in terms of moral conduct, and at the other end conditions which pass into definite disease in the ordinary medical acceptance of the term.

It is precisely the same with the functional neuroses. Epilepsy and hysteria may become veritable diseases in the medical sense, yet on the other hand they frequently reveal themselves as mere episodes in the useful lives of countless individuals in every generation and every race of mankind. As in the case of the psychoses the milder forms pass by gradation into the severer forms which attain to the status of disease.

But neither in the psychoses nor in the neuroses is the "disease" form typical of either group; the clinical aspect of both can be better appreciated by treating their natural history together. Thus:

- (1) They are all markedly hereditary.
- (2) The heredity is transformable—neuroses appearing in the antecedents and collaterals of the subjects of the psychoses and *vice versa*—from which we may imply the existence of a common hereditary basis.
- (3) They constitute genetic variations from the normal in respect of a hyper-excitability of the sensori-motor elements of the cerebral cortex, which renders the subjects susceptible to mental suggestion or to physical or mental impressions which do not similarly affect normally stable individuals.
- (4) There is present in the majority of the subjects a perceptible psychical modification more marked during the episodic crises, and which tends sooner or later towards a varying degree of mental deterioration.
- (5) The symptoms exhibit a marked tendency to periodicity, irregular recurrence, exacerbation, or relapse.
- (6) As a rule this tendency to periodicity and recurrence continues throughout life, but it may weaken in maturer life as the vital and sexual forces subside.
- (7) No anatomical lesion or defect of the nervous system has been

observed upon which a pathology of the functional neuroses or the pure psychoses can be established.

(8) There is present, at any rate in the severer forms, which alone have been investigated, certain disturbances of metabolism, of the blood elements and of the vaso-motor functions, of the causes and nature of which we are ignorant.

(9) The symptoms usually commence to manifest themselves in early life—childhood and the adolescent period.

(10) The neuroses and psychoses have no geographical or racial limit but affect individuals of all human races, and, so far as that is possible, of several of the higher animal species.

The first six points are so generally admitted that comment is unnecessary; the last four require further explanation.

If there is no anatomical change in the structure of nerve tissue characteristic of all phases—mild or severe—of the neuroses and psychoses, then we have to deal with functional and not organic disorders.

The published descriptions of secondary or degenerative changes in the nervous system following upon long-continued recurrent crises or severe attacks of the characteristic manifestations of the neuroses or psychoses do not establish a pathology. Neither do the striking changes in nerve-cells, especially in the acute psychoses, which are occasionally described, but which more probably result from intercurrent super-imposed auto-intoxications, carry us any nearer a solution. The fact remains that in a comparatively large proportion of cases, even when the crises are frequent and extend over long periods of years, there have not been discovered such uniform anatomical changes as would justify a pathology founded upon the morbid anatomy of the nervous system. This negative evidence does not, however, exclude the possibility of undetected changes. It might be argued that as the psychoses and neuroses are hereditary variations their solidarity with mental defect is more than theoretical. We know that in lower-grade defectives physical malformations—the outward signs of nervous malformations—are numerous, and that these malformations become fewer in the ascending scale of defectives until they finally disappear altogether in the highest class, in which the only remaining diagnostic criteria are what we vaguely term mental instability and a tendency to suffer from one or other of the neuroses or psychoses. We also know that the nerve-cells of epileptic idiots show certain characteristic changes, and that in lower grades of mental deficiency certain layers of cortical cells are less developed than in normal subjects. It is not, therefore, illegitimate to assume that these, and probably other changes, extend in a modified degree to the hereditary subjects of the neuroses and psychoses. Again, we know that in Jacksonian epilepsy certain

limited groups of cortical cells may acquire an explosive quality, but it has never been asserted that these cells—which have often been excised with good results and examined carefully after excision—have exhibited any perceptible difference from normal cells. Quite recently Sir Frederick Mott⁽²⁾ has shown us the changes in certain glands—especially the testicles—in dementia præcox, and has correlated these with degenerative changes in the nuclei of the cortical neurons. We await further information from his indefatigable and illuminating researches.

Whether or not the metabolic disorders which undoubtedly accompany the severer crises of the psychoses and some of the neuroses are a constant feature of all phases—mild or severe—of the various groups, or whether that disorder is primary or secondary, is for the present uncertain.

It is unfortunate that the researches of Dr. Lewis Bruce have not been followed up. His writings remain our sole guide on this interesting and important subject. He found that in the acute phases of dementia præcox and manic-depressive insanity there was hyper-leucocytosis with an increase of polymorphonuclear cells. A relapse was generally preceded by a fall in the leucocytosis; when a case recovered the leucocytosis remained high for months and even years; in cases which became chronic or demented the leucocytosis and the percentage of polymorphonuclear cells fell. Bruce also found hyper-leucocytosis present in epilepsy, not only during the period of the seizures but in the intervals between them. Coincident with the hyper-leucocytosis there was generally a high blood-pressure.

Bruce attributes these phenomena to toxæmia but does not suggest any special toxin. In some undoubtedly infectious diseases, such as phthisis and typhoid fever, there is pyrexia without leucocytosis; in the present instances we see leucocytosis with no—or very slight—pyrexia. The relation of nervous perturbation to metabolism has yet to be discovered, but the features mentioned seem to point to secondary changes the result of some direct disturbance of the nervous mechanism affecting the secretion of the endocrine glands. In any case it seems probable that the intoxication is not specific, that it varies in intensity with the severity of the nervous perturbation, and that its deteriorating influence on the finer structure of the cortex depends upon the nature of the toxins, the age of the individual and the resistance of the body tissues.

Although there is no age at which the manifestations of the characteristic symptoms of the psychoses and the neuroses may not appear for the first time, the following figures show that in a preponderance of all cases they occur before twenty-five years of age:

| | 0-25. |
|---|-----------------------|
| Epilepsy (Gowers) | 89.6 <i>per cent.</i> |
| Hysteria „ | 72.0 „ |
| Mania-melancholia (Kraepelin) | 60.0 „ |
| Dementia præcox „ | 66.0 „ |

With regard to the psychoses, Thurnam (*Statistics of Insanity*) and Kraepelin (*Psychiatrie*) agree that the stated age of the development of the symptoms is misleading, and that probably a much larger proportion of the cases should be placed in the earlier period of life (before twenty-five) than is at present done. The age on admission to hospital is usually correct, but the duration of the illness prior to admission as well as the existence of previous symptoms is open to obvious error.

During much the greater part of last century the opinion prevailed that the neuroses and especially the psychoses were diseases, if not directly the result of civilisation, at any rate and in some vague manner augmented and intensified by it. At present a different opinion—that they are genetic variations—is beginning to find favour, but our faces still continue to be oriented towards the older view. The following facts, though not in themselves conclusive, may help towards a decision between these two views; for it is only reasonable to suppose that disorders which are a common inheritance of humanity and of some of the higher animals are neither the phenomena of acquired disease nor the results of civilisation.

Epilepsy in all its forms is met with in domestic animals, including fowls and birds. Friedenberger and Fröhner⁽³⁾ divide the disease as it occurs in domestic animals into idiopathic, symptomatic, traumatic and reflex epilepsy. They also describe the minor form (*petit mal*). "During the periods between the fits," they say, "the animals show all symptoms of health; mental depression, cerebral troubles, dulness of the senses and of the intelligence are rare."

"Of all the diseases included in the group of the neuroses," says Hirsch⁽⁴⁾, "none shows a prevalence so general in time and place as epilepsy; none is so constantly present in the morbid life of humanity; none has so markedly the ubiquitous character." Epilepsy would appear to be uninfluenced by climate or soil or race or habits of life. It is of the same type and generally common in all the races of Europe, in the Moorish population of Algiers, among the Mongols of Northern and Southern Asia, among Malays, Javanese, natives of Peru and Indians of Brazil. In fact, so far as is known, no race in the world is exempt. Local differences undoubtedly exist in the prevalence of the disease. These are best obtained from the records of countries which have military conscription. In France the number of conscripts sent back on account of epilepsy, from 1831 to 1853, was 6,627 in a total of 4,036,372, or 1·6 per 1,000; but taking the period 1850 to 1869 it rises to 2·75 per 1,000. In Italy, out of 2,333,288 recruits medically inspected in fifteen years, 5,103, or 2·4 per 1,000, were rejected on account of epilepsy. In Belgium the proportion was 0·90, and in five districts of Wurtemberg 0·93. In the several provinces of France the proportion of epilepsy appears to vary irregularly from 0·5 to 3·4 per 1,000. In

Italy the distribution shows as a general rule that the disease predominates in the Southern and Western provinces in contrast to the North-Eastern.

From these and other sources Hirsch estimates the average frequency of the disease in Central and Southern Europe at about 1.5 per 1,000 inhabitants.

Catalepsy, which in the human subject is frequently an associated symptom of hysteria, is common in animals. It has been recognised in the ox, the dog, the horse and the prairie wolf. According to Friedenberger and Fröhner the symptoms which are analogous to hysteria in man usually commence suddenly without any precursory indications; in some cases, however, there is anxiety, excitement or loss of appetite. The animals are unable to make the slightest voluntary movement; they remain immobile in the position in which the catalepsy has surprised them. Muscular resistance and rigidity are at first apparent but these symptoms gradually pass off. Intelligence is more or less affected and general sensitiveness is greatly diminished. The attacks may be repeated and their duration is uncertain, lasting from a few minutes to a few hours. A peculiar form of balking in horses is described by Friedenberger and Fröhner which may culminate in veritable mania and is accompanied by serious cerebral symptoms. This phase of excitement is succeeded by a considerable depression of strength. Hysteria in the dog may assume extreme forms, and instances are recorded in which hysterical paresis occurred.

The symptoms of hysteria among primitive peoples are so inextricably conjoined with alleged demoniacal possession, gifts of prophecy, religious ceremonies and the practice of the healing art that it is not always possible to dissociate them.

Tylor⁽⁵⁾ remarks: "Persons whose constitutional unsoundness induces morbid manifestations are indeed marked out by nature to become seers and sorcerers. Among the Patagonians patients seized with falling sickness or St. Vitus' dance are at once selected for magicians and soothsayers. Among Siberian tribes the Shamans select children liable to convulsions as suitable to be brought up to become hereditary members of the Cult."

Estimated by its universal diffusion over the world, hysteria must be the most common of all the neuroses. In the very oldest Brahminical writings, which precede by thousands of years the Christian era, mention is made of it among the diseases of the nervous system.⁽⁶⁾ Coming down to modern times, we find it constantly referred to in the writings of travellers. Judging from the comparative frequency of these references, we can form the opinion that one of the principal seats of the malady is the group of countries in the arctic latitudes of the Eastern Hemisphere, including Iceland, the Faroe Islands, Lapland, and the

parts of Europe and Asiatic Russia in the extreme north. From these regions we have information of the truly endemic prevalence of hysteria among the women of the Samoyeds, of the Yakuts, and other Siberian tribes, as well as among the inhabitants of Kamtschatka. It is also unusually common among the women of Samara and the Kirghiz Steppes. Although hysteria is common enough in Central Europe, it is less so than in the northern or the southern parts of the Continent, such as the south of Spain or Italy. Oppenheim, quoted by Hirsch, states that in Turkey it is "the heritage of women and the scourge of men."⁽⁷⁾ Dr. Roser, quoted by Hirsch,⁽⁸⁾ states that in Gnadenthal in South Africa there are few Hottentot women living there who do not suffer from hysteria in one form or another. The same appears to be true for the Abyssinian territory bordering on the Red Sea, for parts of Egypt and for Tunis. On the table-land of Mexico hysteria counts among the commonest of diseases, and it is frequent in Costa Rica, Brazil, Chili and Peru. Among the inhabitants of the Malay Peninsula a peculiar manifestation of the disease, known as "latah," is very common. Dr. Ellis gives an excellent description of it.⁽⁹⁾ "The symptoms in a latah subject can be suddenly aroused in many different ways, usually trivial in their nature, such as an unexpected noise, some sudden action on the part of a bystander, a sudden touch, or the mere mention of some word—usually the name of a wild animal, such as a tiger. The duration of the phenomena is variable, and may last from a few moments to half an hour or more." Latah is as old as the known history of the Malays. The sufferers are more frequently females than males, and, though there are differences of opinion on the point, it is generally held to be more common among young females. The disease is nearly always hereditary.

When we turn from endemic to epidemic hysteria we open out an endless field which is quite beyond the scope of this paper. One reference, however, must be made in order to complete the subject. In Madagascar, in the year 1864, a peculiar epidemic of hysteria occurred among girls and young married women from fifteen to twenty-five years of age. The occasion of the outbreak, which began at one point and spread gradually almost over the whole island, was the profound sensation caused among the people by the violent death of the king and the consequent changes in the religion and laws. The morbid phenomena were almost identical with those of the dancing mania of the Middle Ages.⁽¹⁰⁾

When we come to inquire into the similar prevalence of insanity the evidence is much more negative, and although there is no race of men who are known to be free from it, yet on the whole travellers are in too many instances silent. It is evident either that the subject does not interest them or they simply say that they saw no insane people. Hence

has arisen the mistaken idea that insanity is a product of civilisation, and that it is rare or unknown among savage or barbarous people. I collected on another occasion numerous references from the writings of travellers for the purpose of showing the unfounded nature of the belief which has arisen on this subject. Dr. Felkin informed me that he had seen in all some thirty or forty lunatics on the White Nile. He also saw some maniacs chained. He was the first to tell me a fact, of which I have since had confirmation from other sources, namely, that the type of insanity among the African natives is different from that in Europe. The prevailing form of mania is a short acute kind, lasting only a day or two, during which the sufferer is driven away to the woods, or voluntarily runs away, returning again in a few days apparently restored in mind. Idiocy was very common in his experience, and so was suicide. Thomson, in his book, *Through Masailand*, states that he found insanity very common. The myths and folk stories of the people are full of reference to it. Those affected by lunacy are driven away from the habitations of sane people, or are otherwise isolated. He also found idiocy very common, especially among the dwarfs and albinos, the latter of whom were numerous, and about the prevalence of mental defect among them there was no doubt. Captain Cook, in his *Voyages*, referring to the South Sea Islanders, says: "We met with two instances of persons of disordered mind, the one a man at Owhyhee, and the other a woman at Oneheeow. It appeared from the particular attention and respect paid to them that the opinion of their being inspired by the Divinity, which obtains among most of the nations of the East, is also received here" (in the Pacific).⁽¹¹⁾

Ellis, in *Polynesian Researches*, says: "Insanity prevailed to a slight degree, but individuals under the influence met with a very different kind of treatment. They were supposed to be inspired or possessed by some god, whom the natives imagined had entered everyone suffering under mental aberration. On this account no control was exercised, but they were treated with the highest respect. They were, however, avoided," etc.

Emin Pasha, in his book, *Central Africa*, says: "Insanity and also temporary mental aberration are frequent. The latter is treated with herbal remedies, which effect an immediate cure by means of sleep and sweating."⁽¹²⁾ Wilson and Felkin state: "Temporary madness is pretty common, and generally lasts for three or four days, but persons thus afflicted do not become very violent."⁽¹³⁾ I might go on indefinitely multiplying extracts from the writings of travellers to the same effect, but it would serve no additional purpose.

There is another reason why this belief in the immunity of the less civilised from insanity has obtained currency, and it is because no qualified person has been at the trouble to investigate the matter.

About sixteen years ago, however, Prof. Kraepelin, of Munich, went to Java and analysed the forms of insanity among the natives in one of the large asylums there.⁽¹⁴⁾ His first inquiry was whether the influence of climate and other tropical conditions of life modified in any way the symptoms of mental disease. He found that Europeans born and reared in Java present exactly the same clinical types of mental diseases as at home. As to the abuse of stimulants and narcotics, the natives do not drink alcohol, and there were therefore no cases of alcoholic insanity among the native population of the asylum. Opium smoking and abuse of the drug is, however, common, yet no patients in the asylum owed their insanity to that cause. The same is true of the large asylum at Singapore, in which city the Chinese population is notoriously given to the abuse of the drug. Of especial interest also is the fact that out of 370 insane natives there was not a single case of general paralysis, whilst among fifty European men who were inmates of the asylum at the same time there were eight cases. Dementia præcox was found to be extremely frequent, and, on the whole, presented similar symptoms to those found among Europeans. On the other hand, mania-melancholia was rare. Many cases seemed to bear a resemblance to it, but they were found, on closer observation, to be distinct and peculiar forms of epileptic or hysterical mania. In those cases in which there was no doubt in diagnosis, the symptoms presented several variations from the European type. Especially was this the case in the depressed form of the mania-melancholia syndrome, where many of the characteristic symptoms were wholly absent. For instance, ideas of "sinning" were never expressed, and maniacal agitation was less developed, and more monotonous, than is usual in western Europe. The great difficulty experienced in forming a satisfactory diagnosis of mental affections in Java was the preponderating amount of "amok" and "latah" among the patients. The symptoms of these semi-hysterical diseases not only formed special clinical groups, but they appeared also to colour the character of other and distinct forms of insanity. Latah is the great mental affection of the Malays, just as hysteria is the corresponding disease *par excellence* of the Samoyeds and Kamschatkans and other nations of north-eastern Europe and northern Asia. Short, quickly-passing hystero-maniacal attacks, similar to those which Emin Pasha and Felkin describe among the natives of the Soudan, Kraepelin describes as frequent among the Malays. This leads to the conclusion that it is not so much a question of the frequency of insanity as of its type which ought to be the basis of inquiry when studying its manifestations among peoples widely separated in development, whether racial or social.

Upon some such basis as the foregoing must rest, for the present, the argument in favour of regarding the psychoses and neuroses as one

group. The practical results of the acceptance of the proposition which I have endeavoured, perhaps too academically, to formulate may be shortly stated.

The psychical element which underlies, often causes and generally accompanies the symptoms of the functional neuroses justifies their inclusion within the domain of psychiatry. The influence of their inclusion would profoundly modify the present too limited sphere of psychiatry in this country.

The acceptance of the view of the identity of the psychoses and neuroses would imply the belief that they share in common an inborn constitutional defect which is ineradicable and irremediable, of which the varying crises and the tendency to periodicity and recurrence are the phenomena. The recognition of this fact would constitute an advance towards a sounder appreciation of the problem of the nature of the psychoses. It should also lead to a more comprehensive view of the whole field of morbid psychology.

The war has demonstrated, what Maudsley long ago indicated, that one and the same cause may originate in neuropathic persons any of the various forms of the psychoses or neuroses, depending upon the particular temperament or idiosyncrasy of the individual. Inimical causes continue to act in so-called times of peace as in times of war, with the result that there exists in the general population a mass of definite and indefinite neurosis and psychosis which is at present unstudied and disregarded.

An obvious corollary to the views that the neuroses and psychoses are fundamentally one, and that the psychoses extend far beyond the limits of legal certification, would be a recognition of the necessity for the establishment of psychiatric clinics in connection with all medical schools and in all important populous centres for the relief of suffering, for the preventive treatment of the neuroses and psychoses, and for the education of the medical profession in the clinical features of medical psychology.

A responsibility for the initiation of a propaganda for the formation of these clinics and for the many other reforms which must follow upon their establishment is incumbent upon all psychiatrists who have come to a consciousness of the deficiencies of the present system, and upon those neurologists who have rendered such valuable service during the war in the treatment not only of the neuroses but of the psychoses.

(¹) *Pathology of Mind*, p. 236.—(²) *Brit. Med. Journ.*, November, 1919.—(³) *Pathology and Therapeutics of Domestic Animals*.—(⁴) *Geographical and Historical Pathology*.—(⁵) *Primitive Culture*, ii, p. 132.—(⁶) *Wise Commentary on Hindu System of Medicine*, p. 250.—(⁷) *Geographical and Historical Pathology*, vol. iii, p. 519.—(⁸) *Loc. cit.*, p. 521.—(⁹) *Journ. Ment. Sci.*, London, 1897, p. 33.—(¹⁰) Hirsch, *loc. cit.*, p. 529.—(¹¹) *Cook's Voyages*, vol. iii, p. 131.—(¹²) *Central Africa*, p. 94.—(¹³) *Uganda and Egyptian Soudan*.—(¹⁴) *Centralbl. f. Nervenh.*, Leipzig, July, 1904.

Chronic Hallucinatory Psychosis.⁽¹⁾ ROBERT HUNTER STEEN,
M.D.Lond., M.R.C.P.Lond., Medical Superintendent, City of
London Mental Hospital, Professor of Psychological Medicine
and Out-Patients' Physician, King's College Hospital, London.

FOR several years past my attention has been directed to a series of cases in which the *principal* symptom has been the presence of hallucinations.

Employing the recognised classifications in use in this country, it has often been a matter of the greatest difficulty to decide under which heading individual members of this group should be placed.

As the hallucinations give rise to slight depression some might possibly be included under melancholia. In others delusions of persecution develop and paranoia might be the provisional diagnosis. Others, again, might be swept into the wide-spread net of dementia præcox.

This state of affairs cannot be regarded as satisfactory, for, as will be shown later, they are not truly cases of melancholia, paranoia, dementia præcox or any other described affection.

It is the purpose of this paper, therefore, to attempt to prove that there are certain hallucinatory cases which can be grouped together to form a well-defined clinical entity. This I have called "chronic hallucinatory psychosis." The choice of a suitable name is of no small importance, and the reasons for the selection of this one will be given as the discussion proceeds.

The main feature of the illness is the presence of hallucinations. These may be of all the senses, but auditory hallucinations are the most prominent.

At the beginning the patient may realise that the hallucination is a morbid phenomenon and unaccountable. He may admit that though he hears a "voice" speaking, there is no one in the flesh actually doing so. Such a state of affairs may last for years, and possibly, though rarely, for life, and the subject would not be deemed insane in the ordinary sense of the word. It is probable, however, that this condition forms the first stage of the illness, which eventually develops on definite lines. The patient demands an explanation of the hallucinations. As none is forthcoming he tries to account for their presence, and the result is a delusion, and, most frequently, a delusion of persecution. The point to be noted is that the delusion is a comparatively late arrival and is the logical result of the hallucinations.

Other abnormal mental symptoms in the early stages are, as a rule, absent. The patient is quiet and orderly. The memory is good, and,

⁽¹⁾ A paper read at the Quarterly Meeting of the Medico-Psychological Association on February 24th, 1920.

outside the sphere of influence of the hallucinations, conversation is rational and little amiss is noticed by the friends.

Before embarking upon a more detailed account it will probably assist the comprehension of the subject if a few clinical illustrations are given.

CASE 1.—M. T—, female, æt. 20, single, no occupation. An aunt was insane. I was asked to see the patient in the autumn of 1916, as she had been subject to uncontrollable fits of crying since about Easter, 1916. Though no mention of hallucinations had been made to me, to the question "What is the matter?" she immediately replied that she could hear two voices talking to her "as clearly as you are talking to me." In reply to the question as to the nature of the messages, she said "Hell" and "other words too awful to mention." On one occasion she had seen "pictures of Gethsemane and other religious pictures." These were the only visual hallucinations, and they did not recur. There were no hallucinations of taste or smell, but she had once the strange sensation "as if someone were touching the skin of my body." On subsequent occasions more information was obtained as to the content of the auditory hallucinations. She told me she heard the voices say: "Don't take no notice." "Mary, it is Satan talking to you." "Do you hear me?" "You had better kill yourself." "You'll be a lunatic before you are many days older." When she tried to sing hymns the voice said, "Oh, shut up." On one occasion when I was called away from our interview for a few minutes I asked her to write down exactly what she heard in my absence, with the following result: "What do you mean by telling Doctor all I have told you? Mary, why don't you take any notice of me? Go and see your Dad. Mary, don't you hear me. What are you looking at? Whatever are you writing down all this just to amuse? You are a wicked cat. You won't go to Heaven," etc. Except for the fits of weeping, there were no other abnormal symptoms, mental or physical. She was a happy-looking girl, and no one, not even her own parents, had any suspicion of the presence of hallucinations.

The case was intensively studied and may be recorded more fully on another occasion, but for the present purpose it will suffice to state that after several interviews the fits of weeping ceased. Each time she came to see me I explained the hallucinatory nature of the voices, which she accepted, and as time went on she felt herself more and more able to disregard them. I found, also, that there was a very severe secret conflict in the life of the girl which was unknown to her family, and with the confession of this she improved so much that the treatment was discontinued.

I am very sorry to have to report that since this paper was almost completed, namely, in last December, the patient has found it necessary to return for treatment. She states, however, that for three years she was entirely free from hallucinations. The "voices" have now returned with renewed intensity, and I have been able to discover that the conflict to which reference has been made was not entirely resolved, and its re-appearance upon the scene has caused the return of the distressing symptoms.

Discussion.—It is not easy to put a name to this condition. Hysteria might be thought of and the fits of weeping might easily be termed "hysterical," but their origin was due, as the patient definitely informed me, to the annoyance caused by the "voices." To call the case one of hysteria or neurasthenia is really only an abuse of these terms and merely a cloak for ignorance. My own feeling is that it is a case of chronic hallucinatory psychosis. She was not insane. She did not develop any delusions with regard to the voices or herself. She quite realised that these were abnormal. It is for this reason that I have adopted the word "psychosis" instead of "insanity." I would not like

to hazard an opinion as to what is in store in the future for this patient. The French call the condition "*hallucinose*," and the majority seem to hold the view that these cases eventually develop delusions. An illustration of this is given as Case 3.⁽²⁾

CASE 2 is similar in many respects to case 1, but is of a more severe type.

S.S.—, female, æt. 38, married, no children. Father suffered from senile insanity. A half-brother committed suicide. In June, 1914, she fell down the stairs of a motor-bus and was much shaken. After this she suffered from sleeplessness. About August, 1914, she and her husband went to live at some flats. The rooms were close together and she thought she could hear the people talking to each other. For example, one night she thought she heard one man say to another, "What the devil did he mean by frightening me about motors." Owing to her nervous condition they left the flat and went to Maidenhead, and then to another address. Here she was "delirious" she said. No one knew, however, that she was "delirious." By this expression she meant that she could hear "music in her head and gramophones talking three or four together. It was like Hell." The hallucinations had existed in much the same condition, some days slightly better and other days slightly worse, till she came to see me in July, 1918. She then gave a full account of the numerous "voices" she heard. I asked were the voices imaginary and she replied, "I know they are not real, but they are so persistent I cannot think of anything else." She was unable to offer any explanation of them. What led to our interview was the fear that she might lose control of herself. For example, a voice told her to warn the police that there was a foreigner in the village she was then living in and she was afraid she might do so. She was anxious for institutional treatment and at her own request she was certified. She came to the City of London Mental Hospital, where she was given full parole and worked on the farm and for a time the hallucinations almost ceased. She had a slight injury to her foot, and during the enforced rest the hallucinations returned with increased intensity, and now the chicken and ducks began to speak to her. She left on trial on November 30th, 1918, not really any better. At the present time (November, 1919) she complains of severe pain on the left side of the head, "just like an abscess." When the sounds come up to the left ear it seems to cause an awful throbbing. The voices are almost continuous. When asked to repeat some of the actual words she hears she says, "A boy's voice has just said 'Some of the dirty little donkeys couldn't find it out,' and 'Who would think I should come down here to make such an enemy as this.'" The second sentence was said by a boy's voice a long way off. Birds and animals appear to talk to her. For example she says, "Yesterday the birds said they were sorry they could not get me into the best society." She was at a public procession a few days ago, and a horse appeared to speak quite distinctly to her. A fresh phenomenon is that every movement made by people seems to result in a voice speaking to her. In order to find out if any delusions were being formed I asked her again what was her explanation of all this. She said, "It's a nervous thing, a most mysterious thing." She admitted that though other people were with her, she alone hears these different noises. The nearest approach to a delusional interpretation was her question, "Do you think Mr. Maskelyne could cause all this by putting me under his influence?" The hallucinations started in the left ear, then affected both ears, and now again are chiefly in the left ear. There have been no hallucinations of the other senses. She lives at home and engages in

(2) As at the time I first saw this patient I was unacquainted with this variety of illness, I had considerable anxiety as to whether I should recommend that she should be sent to a mental hospital or not, more especially as the voice once said, "Kill yourself." She had, however, either to remain at home or be certified—there was no other alternative—and I am now glad I stuck to my guns and kept her at home. What a case, however, for a psychiatric clinic! May these institutions soon come!

her housework, but is easily tired on account of the continual struggle with the "voices." Her friends notice little the matter with her except her preoccupied expression. She says, "I have two heads. I have a very sensible head, and yet you would be surprised at what is going on in the other head." The "sensible head" enables her to keep up appearances. This spontaneous expression is very interesting as indicating that the patient herself has a feeling of dissociation.

Discussion. Here, then, is a patient with auditory hallucinations which have been in existence for over five years. It is a worse case than No. 1 owing to the almost continuous presence of hallucinations. I am afraid she is beginning to seek for some explanation, which, later on, may found a delusional system. Except for the severe pain in the head and the occasional absent-mindedness there are no other mental or physical symptoms. She converses naturally and rationally on other topics. At times she looks slightly worried and depressed, but mostly she is bright and cheerful. She eats and sleeps well.

As regards diagnosis, the remarks made about Case 1 apply equally here. As regards causation, one must note the accident. A prolonged examination into the history of her life has revealed several severe conflicts, and the investigation is being continued.

The next illustration is taken from French literature. For the purposes of reference I shall call it CASE 3. The following is the translation of a report ⁽³⁾ of a meeting of the Psychiatric Society of Paris held on June 15th, 1911.

M. Séglas said: "I shall take advantage of the present occasion to give a brief summary of a new case, the full history of which I shall publish in detail later on. It is that of a female, æt. 35, who has been tormented for the last five years by 'voices.' These 'voices' are heard in different ways. Sometimes they speak 'mutely' to use the actual word of the patient. This is the well-known symptom of 'inward voices' (*voix intérieures*). Sometimes, on the contrary, they seem to come from the external world, as though someone were speaking loudly, or more often with a whispering sound drawing gradually closer to the patient. This discrimination, quite a spontaneous one on the part of the subject, is very important, for it seems clearly to prove in the second variety the existence of hallucinations properly so-called which are exteriorised. The patient adds that then the voice appears to come from around her, sometimes from the right side, sometimes from the left, sometimes from below, just as if the speaker were lying down at her feet on the floor.

"At the same time she experiences what has been called the sense of a 'presence,' and often also, when the voice approaches to speak in her ear, she feels the grazing of the actual contact of a body leaning on her shoulder. This sensation of contact can be produced as an isolated symptom. It can also be exaggerated as the feeling of a 'pushing.' At other times she feels in her limbs, as it were, a 'trifouillage' ⁽⁴⁾, which forces her to execute strange movements . . . This condition has lasted for five years without the patient being able to decide as to the nature of these 'voices' of hers. She does not at all realise their subjective character and will not admit that they come from herself, as they annoy her so much at the time as to make her angry. On the other hand she does not know what can produce them, and her ignorance in this respect is well expressed in the neuter designation which she uses: 'It speaks to me.' She has not built up any system of interpretation regarding them, and even appears much astonished at all

⁽³⁾ *Encéphale*, vol. ii, 1911, p. 157.

⁽⁴⁾ Untranslatable.

the questions she is asked in this connection. She only repeats that she has many times asked the 'voice' what it all meant and that she has never obtained any reply but this, in my opinion a very characteristic one—'Mystery! Mystery!'

"As I have already had occasion to remark, and as M. Buvat has just reminded you, patients of this kind are to be kept distinct in our minds from those who are consciously hallucinated—that is to say, those who of themselves realise the subjective character of their hallucinations. They are also to be kept distinct, on account of the poverty or even the absence of any attempt at systematic interpretation, from the systematic hallucinated insane. However, the character, the contents and the evolution of their hallucinations seem rather to bring them in near relation to these latter, to which they are in all probability closely connected by a series of intermediary cases."

To those interested in the subject two similar cases will be found in *Annales Medico-Psychologiques*, vol. ix, 1909, p. 256.

CASE 4.—This is also from the French, and was brought before the Society of Psychiatry of Paris in November, 1911, by MM. Louis Boudon and Pierre Kahn.

"Mme. F—, æt. 44 years, has shown signs of hallucinations for three years. Auditory, olfactory, visual, and those of general sensibility have appeared in her in succession.

"For more than two years, as MM. Dupré and Gelma have said in this place, she remained simply an hallucinated person without any delusional idea. But at the present time the clinical picture has changed: delusional ideas have been added to the hallucinations.

"*Present condition: Auditory hallucinations.*—These do not allow the patient any peace. Sometimes she hears things of no consequence; most frequently, however, there are insults or menaces. People reproach her with not loving her children, with having had sexual relations with a Protestant or with having had abnormal relations with her husband. They whisper to her villainous things. Certain hallucinations of an imperative character order her not to rise up from bed, not to eat, and not to dress herself.

"Some antagonistic hallucinations advise her not to be uneasy in mind, telling her she is a well-conducted woman. But in spite of all that 'it is unbearable to be incessantly insulted.'

"*Hallucinations of taste and of smell.*—Our patient does not admit any hallucinations of taste, but she has olfactory hallucinations, and these are generally combined with those of hearing.

"*Hallucinations of general insensibility.*—These consist in sensations of formication, of tearing and of 'picotements.' These the patient herself often calls by the name of 'crépillements.'

"*Genital hallucinations.*—F— complains that persons make her submit to touchings of the parts.

"*Visual hallucinations.*—In the evening at nightfall, but sometimes also in the daytime, F— again sees people that she has seen on preceding days; occasionally they appear to her 'as in a cinematograph,' and when her husband has gone out she sees him as if he were with her paying visits to the tradesmen of the district.

"*Psychomotor hallucinations.*—F— complains that people make her execute movements in spite of herself, and that they compel her to speak.

"Our patient then is still badly hallucinated. But at the present time the symptomatology she has presented for some months past is enriched by new elements which are—

"*First: Delusional interpretations.*—It is the neighbours who insult F— because, she says, she one day refused an invitation addressed to her by one of them. It is a gentleman whose name she does not know who reproaches her with having had certain relations with a Protestant. It is *églantinaris* and freemasons who speak to her.

"People magnetise her. One of the physicians who formerly attended her magnetised her while auscultating her. People have some scientific means by which

they can make her hear voices at a distance. In the same way, if, while alone, she sees people she knows, it is that these persons have been given a certain power (*fluide grâce*) by which they can reappear before her. We have not ascertained any ideas of grandeur.

"*Second: Neologisms.*—Not numerous, but among others you will remember the word '*crépillements*' by which F— names certain of her hallucinations of general sensibility.

"*Third: Reactions in opposition to her persecutors.*—These have diminished to a great extent.

"However, F— answers the insults that she hears and often gets angry. She has told us of her intention to change her residence when she leaves the asylum. She requested her husband to lodge a complaint at the police station against her persecutors.

"Lastly, she has come to us hoping that physicians would be able to instruct her as to the proper scientific means to thwart those of her enemies."

It may be as well to pause here for a moment to review the ground covered so far. The first case is that of a patient who was completely aware of the abnormal character of the hallucinations. The second is of a more severe type. The patient had at first distinct insight as regards her condition, and for many years has been able to live among her neighbours without their noticing anything amiss, but she is now beginning to lose touch with her environment and is afraid of herself. Delusions seem to be on the point of developing. The third patient has not developed delusions, but has no insight of the nature of her illness. Case No. 4 is one in which definite delusions have developed in a person who for many years had hallucinations only.

The following and last case is an example of the same sequence in one of my own patients. I have selected this one as she has been under observation for some time.

CASE 5.—C. N. C—, female. Admitted to the City of London Mental Hospital, January 6th, 1915. Single; governess. Father alcoholic. Father's brother died insane. One sister insane, a second sister unstable, a brother died insane, another brother died from alcoholic excess, another brother had a drug habit. Father and mother are dead, and she had been living quietly with a sister at D—, going out as a daily governess.

In the summer of 1912 a brother, F. C. C—, to whom she was very attached, was missing for several weeks. She and her sister were daily expecting his arrival, and no news was received from him. As far as can be ascertained he was in trouble with the police, and shortly afterwards fled the country. While in this state of anxiety, in September, 1912, she consulted Dr. D— about a small growth in her gum, and continued going to see him for about two months. Shortly after her first visit to Dr. D— she began to hear "voices." At first she thought it was his voice. About the same time she commenced to have strange sexual feelings which she attributed to Dr. D—. The hallucinations continued during the winter and spring, and in the summer of 1913 she went to some relatives at F— and the voices were not so persistent as at home, but it was here that "nasty words" began to come—"such nasty words." She gave up teaching during this summer, but resumed this in the winter, and finally ceased her work in August, 1914. About this time, also, it seemed as if "thoughts" came to her from other people, and that other people could read her thoughts. In November, 1914, she had the visual hallucination of seeing Dr. D—. To use her own words, "Quite plainly I could see his presence beside me. I was talking to my sister one night and not even thinking about him, when his presence seemed to be standing quite close to me."

Condition on admission.—She was a quiet, lady-like patient, and conversed in a natural manner and rationally. Her memory was excellent. I asked her to write down the actual words she heard, and she gave me two closely-written sheets of notepaper, too long to quote, but containing, amongst others, the following words: "Eternal weary man," "Too rummy," "Too guarded," "Can't beat it," "Booby," "Get thinner," "Unhealthy yet married," "Tea," "Cursed in spite," "Hoodwink." "Beat her, bruise her," etc. She had also the "echo"-sensation of hearing her thoughts spoken aloud. There were no hallucinations of the other special senses. Besides the hallucinations she complained bitterly of the sexual feelings.

During the last five years there has been but little real change, though she is at times worse than others. Mostly she is industrious, but at other times refrains from all work, as it does not seem to further her discharge. At first she could offer no explanation of the hallucinations, but she has now formed the delusion that she is being persecuted by some unknown agency. She is seclusive and rather avoids myself, as she thinks I ought to take active measures to stop this persecution.⁽⁵⁾

It is interesting to note that a sister, who is still engaged in teaching, and whom no one seems to suspect of being mentally affected, as long as three and a-half years ago told me that she heard my voice talking to her all the way in the train as she was travelling up to London.

Discussion.—Here, then, is a patient who, since 1912, has been the subject of auditory hallucinations. Arising from these, delusions of persecution have developed in a logical manner. These delusions are vague, and have appeared only as a late symptom, and there are no signs of dementia.

The illness came on after a period of severe anxiety. About the same time she consulted a doctor whom she fell in love with. Her symptoms and the analysis of her dreams clearly proved this to be the case. Both the disgrace of her brother and her love for the doctor were strongly repressed, and, to my mind, this repression caused the auditory hallucinations. This, however, is another matter which will be considered later when the ætiology of the disease comes under discussion.

The point we are most concerned with at present is—"What is the diagnosis?" The seclusiveness suggests dementia præcox. Against this there are absolutely no other signs or symptoms of this disease. The predominance of the hallucinations rules out paranoia.

A systematic description may now be attempted. This will be made as brief as possible. Some amount of repetition will be unavoidable and, it is hoped, will be excused.

Ætiology.—In most cases a careful research into the family history will reveal a strong hereditary tendency to nervous instability. This is particularly well marked in Case 5. A statistical inquiry at this stage is premature, as the numbers known to any single observer are few. It is not to be inferred, however, that it is a rare disorder, for I can select half-a-dozen or more with the greatest ease from my own practice. Without statistics, then, my general impression is that the affection is

⁽⁵⁾ This patient now complains that she hears "silent voices"—her own expression. Compare Case 3.

one of adult life and begins mostly between the ages of thirty and fifty. Most of my patients have been women, and it is more frequently met with in the private than the rate-paid class.

Other observers have suggested that an illness such as pneumonia may act as a predisposing cause. Such, however, has not been my experience. As regards the actual cause, it may be noted that a history of physical injury is often met with. In Case 1, for example, she dated all her troubles from the time when some fire-irons fell on her ankles. In Case 2, it will be remembered, the patient fell down the stairs of a bus. Though a physical trauma may play some part as a precipitating factor, I feel that the main cause is psychical. In all cases which I have studied intensively, I have found evidence of severe mental conflict with more or less repression of the same.

Pathology.—There is no known special morbid anatomy. Not one of my cases has died, and other observers have published no accounts of *post-mortem* examinations so far as I am aware.

The conception of the real nature of the illness will depend on the theory of hallucinations in general. Such a theme would suffice for many papers. Though the following statement sounds dogmatic I hope it will be forgiven, as in the interests of brevity I have tried to make it as concise as possible.

There are many theories with regard to hallucinations founded on a material conception, and so far no centrifugal, centripetal or special centre theory has met with general acceptance or advanced our knowledge in the least degree.

The nature of the phenomenon can be best understood if approached from the purely psychical side. An hallucination is the result of dissociation of the mind. As to what is meant by this, the following examples may be given: When a man reads aloud and his thoughts wander to other matters there is a small amount of dissociation. A greater degree is met with in automatic writing. Other examples could be given showing increasing severity till the extreme limit of the multiple personality is reached. In chronic hallucinatory psychosis dissociation of the mind has taken place. This dissociation has been caused by mental conflict more or less repressed in a person congenitally mentally unstable. It is noteworthy that the patient may possibly have a feeling of dissociation. An example of this has been given in Case 2.

Symptoms and course.—After a period of some mental uneasiness, and possibly sleeplessness, an auditory hallucination appears with startling suddenness. The patient is naturally astounded. Other auditory hallucinations follow rapidly and cause a certain amount of distress. At first it is admitted that these hallucinations are “imaginary” or “not real.” These are the expressions used by the sufferers

themselves, and though, strictly speaking, not very accurate ones, they convey to our minds the fact that the patient realises he is dealing with something abnormal in his personality. At a later stage he abandons the position that the voices are subjective and states that they are produced externally by some unknown agency. In a word, insight is now at an end. The final stage is, that the unknown agency is now known, and consists of "freemasonry," "wireless telephony," "a gang of persecutors," etc., and the patient is now the subject of hallucinations plus delusions. The delusions, moreover, are the logical product of the hallucinations. The hallucinations do not differ in any marked manner from those met with in order forms of insanity. They may be of all the senses, and auditory are most frequent, visual least so. One very painful feature is that the voices convey messages of an obscene or blasphemous nature. With regard to the sensation of touch, a symptom which causes intense distress is the hallucination that the genital area is being touched or interfered with. A strange hallucination is that of someone being present in the room—not seen, or heard, or felt, but just a feeling as if there were a "presence" near. In some cases the hallucinations may be continuous while the patient is awake. They cease during sleep, but immediately reappear on awakening either in the middle of the night or in the morning. Sleeplessness is not a prominent symptom except in the later stages of the disorder.

During the first part of the illness, for many months, or even years, other mental symptoms are absent. The general behaviour in no way attracts attention. The expression is normal, conversation is quiet, rational, and without loquacity or retardation. The memory is excellent, emotional excitement rare and depression only slight. In short, outside the sphere of influence of the hallucinations there is nothing that can be taken exception to. Later on, as the hallucinations with their delusions assume the control of the personality, many symptoms arise. The expression becomes anxious. A listening attitude may be adopted and the "voices" may be conversed with. Memory for recent events may be poor, because the attention is distracted. Conversation is to a considerable extent confined to the hallucinations and delusions. Letters may be written to the Home Secretary or other important personages. The police are asked why they do not interfere to stop the persecution. Violence may be threatened and suicide suggested. The extent and severity of these symptoms will depend on the hold the delusional system has obtained. This may be put in other words, using the illustration of Case 2, who said that her mind was divided into two parts—a "sensible" and a "bad" one. At the beginning the "sensible" part is by far the larger and can easily control the aberrations of its fellow, but as time goes on the former shrinks *pari passu* with the increase of the latter and the symptoms mentioned appear.

The whole process is very gradual, hence the name "chronic." It is not strictly continuous, as there are periods of remission and exacerbation, with again subsidence, but viewing the illness as a whole it steadily increases in intensity. Having reached its maximum, the severity of which varies in different subjects, the condition remains stationary for years. Possibly I have not observed the cases for a sufficiently long time, but I have not seen the development of delusions of grandeur followed by dementia as described by some authors.

Diagnosis.—Hallucinations occur in all forms of mental disease and are probably the commonest symptoms met with. It is therefore evident that the mere presence of hallucinations will not suffice for diagnosis. In chronic hallucinatory psychosis, however, the disorder begins with hallucinations, and the patient outside the sphere of these appears to be normal, so that in the early stages the diagnosis will be simple. In the later stages, this will have to depend to some extent upon the history of the illness and may not be so easy a matter. But if the delusions appear to be the logical outcome of hallucinations which have preceded them, and that if outside the diseased area composed of hallucinations and delusions the patient appears but little abnormal, the diagnosis will be made.

Differential diagnosis.—If these main points are remembered there will be little difficulty in excluding general paralysis, the manic-depressive group, true melancholia and the secondary and organic dementias. Neither need acute confusional insanity, also called acute hallucinatory insanity, detain us as it is altogether different. Chronic hallucinatory insanity of alcoholic origin has many points of resemblance to the disorder under discussion, but in the former there is a history of alcoholic excess for a long period, in the latter this is wanting. Moreover, in the alcoholic, the delusions of persecution are more pronounced and appear at the same time as the hallucinations.

In practice, however, the temptation will be to include the cases we have been considering under the heading of dementia præcox, or paranoia.

To take dementia præcox first. No doubt many cases similar to those I have described have been squeezed into this category because there was no other place for them. It has ever been the bane of our specialty that it has suffered from nosological fashions. When a certain clinical entity looms largely before the eyes of the practitioner it becomes the universal disease. To-day it is dementia præcox, and I think it will be admitted by all that we have to be constantly on our guard so that we do not diagnose dementia præcox in cases which our present ignorance should urge us to deem as unclassifiable. There are really very few points of resemblance between chronic hallucinatory psychosis, as I understand it, and dementia præcox. It is true that in the paranoid form there may be delusions of persecution with hallucinations.

But these delusions are not systematised nor are they the logical outcome of the hallucinations. They are constantly changing and have that "freaky" character common to dementia præcox. Furthermore, a typical case of this latter disease with its emotional apathy, lack of judgment, scattered ideation, and all the peculiar behaviour such as impulsiveness, negativism, stereotypy, mannerisms, monkey tricks and the rest, bears no resemblance to one of chronic hallucinatory psychosis.

Lastly there is the question of paranoia, and this cannot be dismissed so summarily. In both paranoia and chronic hallucinatory psychosis the beginnings of the illness may be unnoticed for years by the friends of the patient, the evolution is slow and gradual, and outside the sphere of the disorder the patient is well conducted, collected and rational in conversation. In neither, even after long periods of time, does dementia supervene. There is, however, this great distinguishing feature—that paranoia is characterised by the absence of hallucinations, and in chronic hallucinatory psychosis the presence of hallucinations is the main symptom. I could give numbers of references from various writers to show that they regard almost as pathognomonic of paranoia the fact that hallucinations are absent. Perhaps one will suffice: Kraepelin, in discussing the differential diagnosis of genuine paranoia and dementia præcox, states that the former do not suffer from hallucinations.⁽⁶⁾

Someone may say, "Why not call this new disease 'hallucinatory paranoia'?" and in some ways such a course would be plausible, but it seems to me contradictory to set out to describe an hallucinatory form of a disease which is characterised by the lack of hallucinations.

Before concluding the differential diagnosis reference must be made to descriptions given by various authors of disorders which more or less resemble chronic hallucinatory psychosis.

From a large list I have selected the following three:

First of all must be mentioned the Laségue-Falret syndrome, which dates from the middle of last century. This consists, to put it very briefly, of four stages. In the first, delusional interpretation of the environment occurs; in the second stage hallucinations develop; in the third stage disturbances of general sensibility arise; and the fourth stage is characterised by the formation of delusions of grandeur.

Later on came Magnan with his description of *délire chronique*. This, like the last, has four stages also: *First stage*—suspicion of the environment with delusions; *second stage*—hallucinations with systematisation of the delusions; *third stage*—delusions of grandeur; *fourth stage*—terminal dementia. Most writers agree that a typical example of Magnan's disease is rarely seen, and regard it more as a schema to which various cases approximate more or less accurately.

(6) *Dementia Præcox*, Kraepelin, translated by R. Mary Barclay, p. 276.

Finally mention must be made of Kraepelin's paraphrenia, a full account of which is given as the terminal chapter of Dr. Mary Barclay's translation of Kraepelin's *dementia præcox*. This conception seems to be founded largely on Magnan's *délie chronique*, which it resembles in many respects.

Time does not permit of a detailed differential diagnosis of these from chronic hallucinatory psychosis.⁽⁷⁾ It will, however, have been noticed that in them delusions of persecution form the main feature of the illness and that these delusions appear prior to the appearance of the hallucinations, whereas in chronic hallucinatory psychosis the reverse is the case. Furthermore, in the latter delusions of grandeur and terminal dementia do not occur.

Prognosis.—The earlier the case is seen the more hopeful is the outlook. After the development of delusions little can be done to avert chronicity. The general health is not affected and there appears to be no danger of terminal dementia.

Treatment.—In the early stages benefit is sometimes obtained by change of environment. Rest from work, freedom from anxiety and change of air and scene should be advised; these measures, with plenty of nourishing food, relief of constipation if present, tonics and an occasional hypnotic to ensure sleep may do good in some cases. I have not much faith in the efficacy of any particular drug to remove hallucinations. Small doses of the bromides or hydrobromic acid have been recommended. If the patient does not improve under this treatment a thorough mental examination must be undertaken. This will, almost certainly, reveal a conflict, which, with repression of the same, is causing the dissociation. Even then the work may not be at an end and a psycho-analysis will be necessary. The difficulty at the present time is to get in touch with the patient in the primary stage. Even now, however, some do come to the mental out-patient departments of the large hospitals and in the future many more will be met with in the clinics. When the patient reaches the stage when he has to be certified the whole morbid state has become so fixed as to be little affected by analysis in the majority of cases. Even then, however, this should be undertaken with a view to the study of the mechanism of the process. If it be generally confirmed that dissociation is the pathology of the condition then we might expect that hypnosis would be beneficial, seeing that Morton Prince produced recovery in the classical case of Miss Beauchamp (a dissociated personality) by this means. On this matter I cannot speak from personal experience.

(7) This matter is discussed in considerable detail in a paper by Roxo on "*Délie Systematisée Hallucinatoire Chronique*," read at the International Congress of Medicine in London, 1913, and published in the *Transactions*, section "Psychiatry," Part II, p. 104.

When the condition has become chronic little can be done save to treat the patient on general lines, and by means of suitable occupation to prevent him from becoming worse.

In conclusion, I would venture to suggest that the subject of the hallucinatory insanities should receive more attention in England in the future than has been the case in the past. If the medical journals of other countries, notably those of France, are studied numerous papers and discussions on these matters will be found in them, and yet in this country they are rarely mentioned. The subject is undoubtedly a difficult one, but it appears to me that out of the mass of somewhat confusing material the disorder I have tried to describe can be separated as a definite clinical entity. It may seem to some a matter of indifference what nomenclature is adopted. This, however, to my mind is most important, for with recognition and naming come investigation on definite lines.

I am therefore expressing the hope that others will follow suit on the same lines, and that by additional intensive study many gaps in my description will be filled in, and that eventually with timely recognition early treatment may lead many patients to recovery.

Head Injuries in Relation to the Psychoses and Psycho-neuroses.⁽¹⁾

By RICHARD EAGER, O.B.E., M.D.Aberd., Senior Assistant Medical Officer and Deputy Medical Superintendent, The Devon Mental Hospital, Exminster; late Officer in Charge of The Mental Division, The Lord Derby War Hospital, Warrington.

UNTIL the outbreak of hostilities in August, 1914, the number of cases of mental disorder associated with head injury investigated by any one individual must of necessity have been very small. Hence the sparcity of literature on this subject. Never before the outbreak of the late war have so many men been engaged in armed conflict against one another, and never before have arms of such a destructive kind been employed.

Comparatively suddenly, therefore, we are brought face to face with a large number of men receiving terrible injuries to the skull and its contents, the like of which has never before been known. Thanks to the high standard of efficiency of modern surgical methods a large number of these cases have been restored to a condition fitting them to become useful citizens, but on the other hand the ultimate condition of some has not been such a favourable one, and it is with regard to these cases that I am confining my remarks in this article.

For a period of two years, during which I was in charge of the Mental Division, comprising 1,000 beds, at The Lord Derby War

Hospital, I have kept personal records and observations on all cases with head injury that were admitted, and it is from the study of this collection of cases that the following observations have been made.

In reviewing the cases of head injury met with surgically by Lieut.-Col. Gordon Holmes and Lieut.-Col. P. Sargent up till September, 1916, they stated that the proportion of cases in which insanity or epilepsy had developed was surprisingly small.⁽¹⁾ They state that many patients presented symptoms of dulness, loss of memory, irritability and childishness during the early stages, but in the majority of cases these symptoms disappeared or diminished. That during a period of twelve months only eight patients who were wounded in the head were admitted to the Napsbury War Hospital as mental cases, and four of these had since been discharged. Of the four others one had been previously invalided from the army for mental trouble but had re-enlisted, a second was considered to be a case of dementia præcox, and in the two remaining cases only were the persistent mental symptoms attributable to the head injury.

Cecil A. Joll (2), from a series of twenty cases, states that two cases—both French—showed “mental instability.” One of these was a case of cerebral abscess following shrapnel wound penetrating the left parietal region, and the other a glancing bullet-wound of the left parietal region. There were also two cases with symptoms of delirium—one of these a German with shrapnel wound of the right side of the fronto-parietal and occipital regions, and the other a Frenchman with a glancing bullet-wound of the right parietal region near the vertex. A sixth case, a Frenchman with a glancing bullet-wound in the posterior parietal region, showed maniacal symptoms, and another case was hopelessly demented.

Such information as the above is too scanty, and based on an insufficiently large amount of material to be of much value. I think, however, that by making an analysis of the first hundred consecutive cases of head injury in which mental symptoms had manifested themselves, and therefore led them to be placed under special observation, we shall find points of interest to the alienist.

No case was considered by me as a suitable case to include in these observations unless there was clear evidence that a definite head injury had been received. All cases therefore which gave “a history” of head injury which could not be corroborated by examination or accompanying notes were carefully excluded from my series. Most of us who have inquired very deeply into the personal histories of our patients will be familiar with the frequency with which one obtains vague accounts of alleged head injuries as an endeavour to account for the mental symptoms, and nothing could be gained by inclusion of such cases in this record.

A large proportion of the cases from which the material for this article was obtained had injuries of a very definitely severe and terrible nature. They were all taken from a series of over 5,000 cases of war psychoses that have now passed through my hands during the same period.

These cases will now occupy our attention, and individual case-records will be quoted as freely as space will permit.

In classifying head injuries Purves Stewart (3) divides them into (1) tangential, (2) penetrating, (3) perforating, but for the purpose of this paper I have divided my cases into "superficial" and "deep." By the former I mean, and have included, cases in which after thorough examination nothing more than a superficial wound involving skin or subcutaneous tissues was found. In the latter class I have included any cases where there was injury to the skull or underlying structures.

The table shows the 100 cases accounted for in the above manner, and grouped together according to their symptoms and the topographical distribution of the injury.

It is seen that practically half the injuries were of the superficial character, and in the other half the skull or underlying structures were involved in the injury. On looking further into these cases it was also found that 50 were left-sided injuries, 35 were right-sided, and the remaining 15 were confined more or less to the middle line or else involved both sides of the skull.

There is at first sight seen to be a striking conformity between the superficial and deep injuries with regard to the type of cases presented in each group. There was in fact no marked disproportion of cases in either with the exception of the epileptics. Here, however, we find that 12 out of 15 cases occurred in the injuries involving the skull or underlying structures. In other words, whereas the cases of epilepsy represent 15 *per cent.* of the total number of cases investigated, the incidence of epilepsy was four times greater in the cases with gross cranial injury than in the cases in which the injury was of a superficial character. In one of the cases included in the latter group also it should be mentioned that it was elicited that the patient had had fits prior to enlistment. Sargent and Holmes, who made investigations into cases of head injury in a much earlier stage than those included in this article, mentioned the comparative rarity of epileptic seizures following head wounds. They found that fits had occurred only in 6 *per cent.* of the cases.

On looking further into the figures in the table it will be seen that the cases of dementia præcox and organic dementia, of each of which there were two representatives, all figure amongst the deep injuries.

One of the former had been two years in an asylum prior to joining the Army, and had received his head injury when a child. The other

Table showing the Cases Grouped according to their Symptoms and Topographical Distribution of the Injury.

| Symptoms. | Frontal. | | Parietal. | | Occipital. | | Temporal. | | Mastoid. | | Face. | | Totals. | |
|--|--------------|-------|--------------|-------|--------------|-------|--------------|-------|--------------|-------|--------------|-------|--------------|-------|
| | Superficial. | Deep. | Superficial. | Deep. | Superficial. | Deep. | Superficial. | Deep. | Superficial. | Deep. | Superficial. | Deep. | Superficial. | Deep. |
| Hysteria | — | — | — | 1 | — | — | — | — | — | — | — | 1 | — | 2 |
| Neurasthenia | — | — | — | 1 | — | — | 1 | — | — | — | — | — | 1 | 1 |
| Psychasthenia | — | — | 1 | — | — | — | — | — | — | — | — | — | 1 | — |
| Amnesia | 4 | 2 | 1 | 2 | — | — | 1 | 1 | — | — | — | 1 | 6 | 6 |
| Mental deficiency | — | — | — | 1 | — | — | — | — | — | — | — | — | 2 | 1 |
| Moral deficiency | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mania | 2 | 2 | 3 | 1 | 1 | — | — | — | 1 | — | — | — | 5 | 4 |
| Melancholia | 5 | 1 | 3 | 4 | 1 | 2 | 3 | 1 | 1 | — | 1 | — | 13 | 9 |
| Manic-depressive | — | — | — | — | — | — | — | — | — | — | — | — | — | 1 |
| Mental instability | 1 | 1 | — | — | 2 | — | 1 | — | — | — | — | — | 4 | 1 |
| Acute hallucinatory and confusional states | — | 2 | 3 | 2 | 2 | — | 2 | — | — | 1 | — | — | 7 | 5 |
| Delusional states | 1 | 1 | — | — | — | — | — | — | — | — | — | — | 1 | 1 |
| Stupor | 1 | 1 | — | 1 | — | — | 1 | — | — | — | — | — | 2 | 2 |
| Epilepsy | — | 1 | 1 | 11 | 1 | — | — | — | 1 | — | — | — | 3 | 12 |
| Vertigo | — | — | 1 | — | — | — | — | — | — | — | — | — | 1 | — |
| Dementia præcox | — | 1 | — | — | — | — | — | — | — | — | — | — | — | 2 |
| Organic dementia | — | — | — | 1 | — | — | — | — | — | 1 | — | 1 | — | 2 |
| | 16 | 12 | 13 | 25 | 8 | 2 | 10 | 3 | 3 | 3 | 1 | 4 | 51 | 49 |
| | 28 | | 38 | | 10 | | 13 | | 6 | | 5 | | 100 | |

The word "superficial" has been used to denote a scar with no indication that more than skin and subcutaneous tissues were involved. The word "deep" has been used to indicate that the wound damaged the skull-bones, and in many cases the underlying structures were also involved.

had received a bullet-wound of the mastoid region of the skull in action, and had had the bullet removed by operation, but being a Canadian no accurate account of his previous history could be obtained from any relatives, and during the three months that he was under observation awaiting repatriation it was quite impossible to obtain any reliable information from the patient himself. He could not even give his home address, and frequently was altogether mute in response to questions, but sat muttering a great deal to himself, and occasionally bursting out into senseless laughter. He was also catatonic, and presented most of the symptoms of dementia præcox. Capt. H. J. Norman (4) has previously described a case in which the symptoms of "dementia præcox" developed after a compound fracture of the skull over the right Rolandic area, with opening up of the dura and laceration of the brain causing hemiplegia. In my case just recorded the bullet was removed from the left temporo-sphenoidal region about 1 in. behind the left ear, where it had lodged without any evidence of penetrating the internal table of the skull.

The two cases of organic dementia were both associated with severe cranial injury. In one the injury was of sixteen years' standing, and in the other the patient had metal in the right cerebral hemisphere, with a destruction of brain-tissue causing a left-sided hemiplegia.

The cases of mental deficiency had all been below the average in intelligence prior to enlistment, but there was evidence to show that the injury had somewhat lowered their pre-war standard. One had been reduced to the level of an imbecile who was quite unable to look after himself in any way since receiving a superficial wound of the scalp of the frontal region. He had previously earned his living as a carter. Another, after nine months' service, received a fracture of his skull from a bullet. He was in hospital about six weeks and discharged to his depôt, but found unable to understand hardly anything that was said to him, and on this account had to be sent to hospital again.

It will be seen, on the other hand, that all the cases described as morally defective had injuries of a superficial nature.

I now propose to deal with the analysis of these cases more closely under groups made in accordance with the site of the injury.

FRONTAL INJURIES.

Of the 100 cases it will be seen that 28 were frontal injuries. Ten of these were left-sided, 10 right-sided, and 8 over the middle line.

It will be noted that only one case of epilepsy is accounted for in the frontal injuries. This was the case of a man who died in a condition of *status epilepticus* lasting four days. He had received a gunshot wound of the right frontal region twelve months previously, for which

he had subsequently had a trephine operation and a frontal abscess evacuated. Since then, and four months after the injury, "fits" had developed. He subsequently had two attacks of *status epilepticus*, after which on each occasion his mental condition showed definite deterioration with marked memory defect. He came under my observation a few days after the second "bout" of fits, and died a month later. A *post-mortem* examination was performed, and a trephine opening measuring $1\frac{1}{2}$ in. transversely and 2 in. from above downwards was found in the frontal bone $\frac{1}{2}$ in. above the right eyebrow. The margins of the trephine opening were smooth, and the opening was occluded by dura mater. The pia arachnoid was found adherent to brain over the first, second and third frontal convolutions of the right hemisphere, and the surface of the brain substance over this area was yellow in colour. On section the grey matter of the external surface of the right frontal lobe was practically disorganised; but on the other hand there did not appear to be any involvement of the white matter as far as could be seen macroscopically. No metal was present in the skull, and the rest of the brain appeared to be in a healthy state. The weight of the brain was 57 oz.

Whereas the number of cases of epilepsy amongst the frontal injuries was low and limited to one case only, the number exhibiting states of complete dissociation, such as amnesias, was found to be comparatively high. Half of the total number of cases in which this was the predominant symptom were found amongst the injuries of the frontal region. In three of these cases the period of amnesia had lasted for a month and upwards, and in the other three the amnesia was of shorter duration but recurring at frequent intervals. Most of these cases complained of a feeling of pressure in the head as an associated symptom. In only one case could alcoholic intemperance be found to be an associated factor. The following is a typical example of one of these cases with amnesic fugues.

Patient was wounded in the forehead by a shell from a trench mortar whilst coming out of a sap. He was rendered unconscious, and came to himself the following morning whilst in a field ambulance. He was only kept in hospital three or four days, and rejoined his battalion in the trenches two months later. Three months after this he was again wounded and evacuated to England, the wound on this occasion being in the elbow. This eventually healed, causing no disability, and he was given ten days' furlough in order to proceed home to Ireland to visit his mother. Two months later he was found by the police in civil clothes. He stated that he was on his way to report himself to his unit when arrested, and this appeared to be the case, for on examination medically it was found that he had a complete amnesia as to what had happened from the time of his arrival in Belfast till two months later when he

had "discovered himself" on Clapham Common. He then found himself in civil clothes, but had no idea where he had obtained them. In his pocket he found a "pass" giving him authority to proceed to Ireland, and instructing him to report at his *depôt* at the expiration of his furlough. He remembered landing at Belfast, but everything else seemed "blank," and he could not remember whether he had seen his mother or not, for which purpose he had proceeded to Ireland. Having no money in his pocket he proceeded to walk to his *depôt*, and it was whilst so tramping that he was arrested. He complained of a feeling of a painful tight band round the forehead, and that on previous occasions, whilst in the trenches and since his head injury, he had had feelings that certain days were "quite blank." He was somewhat depressed, and seemed to have considerable anxiety as to whether he would fall a victim to another of these attacks. On examination of the skull a definite bony ridge could be felt on the centre of the forehead extending to about 1 in. above the centre of the left eyebrow. X-ray examination confirmed the presence of a definite fracture which had apparently escaped detection previously. One other point is worth notice, namely, that the only two cases recorded under the heading of delusional states occurred amongst the frontal injuries. One was a superficial injury and the other deep. In the latter case the delusions led the patient to believe that he was being looked upon as a German spy, and these ideas developed within four months of receiving a fracture of the frontal bone by shell. The other case developed ideas that his correspondence was being tampered with, and that some unseen agency was working against him. This patient had received a frontal injury twelve months previously, but the above ideas did not develop till he was again in hospital with a wound of his hand. It will be observed that two of the three cases of mental deficiency had frontal injuries, whereas none of the cases in which the moral side of the patient's character seemed to have been chiefly affected were associated with injury of the frontal region.

Our conception of the consequences of frontal injuries prior to the war was based on the work of Ferrier, Horsley and others who have contributed particulars of isolated cases. But the opinions expressed were somewhat indefinite. Ferrier found no appreciable result by stimulation and extirpation of the anterior part of the frontal region in monkeys, but his experiments tended to show that on removal of this area such animals appeared to be more restless and more easily distracted. It also seemed that under prolonged examination before and after the experiments there seemed to be a distinct loss of the persistence shown by monkeys with extirpated frontal lobes to obtain things, such as a nut, in comparison with normal monkeys. In the celebrated crowbar accident due to the premature explosion of a charge

of dynamite in an American mine (5), we are told that the patient recovered and returned to his work as overseer of the mine, but that there seemed to be a change in the man's mental qualities comparable to Ferrier's observations on monkeys and a deterioration of moral character. Oppenheim (6), in discussing the localisation of the cerebral cortex, says: "To all appearance the frontal lobes play a prominent part in the higher mental functions, and excision of a tumour compressing the frontal lobe has been followed by the disappearance of mental symptoms."

From the cases that have passed through my hands, however, there seems to be no uniformity in the psychic symptoms that may follow frontal injuries, and the tendency that there has been in the past to consider as a special characteristic of injuries in this region the likelihood of the moral character of the individual to suffer most is not supported.

PARIETAL INJURIES.

These account for 38 out of the 100 cases. Amongst this group we find 12 out of the 15 cases of epilepsy, all of which were associated with some gross head injury, except one in which the wound was superficial. In the majority of cases the injury of bone was so extensive as to be almost incredible. Fig. 1 illustrates a case with a trephine opening about 2 in. in diameter over the upper part of the right parietal region involving part of the Rolandic area. This was the result of a shell-wound received in February, 1917, whilst sniping in Mesopotamia. He was ten days unconscious, and after operation was evacuated to Bombay, where he arrived on March 21st, 1917. About four days later he had his first fit, the wound being then practically healed. He was returned to England and received in hospital here about the middle of September, 1917, when he had a depression over his parietal bone corresponding to the site of the trephine opening, and also showed evidence of a left-sided hemiplegia. As regards this he showed signs of improvement in the upper extremity, but with the exception of slight movement in the hip the lower extremity was completely paralysed. There was no facial or oculo-motor paralysis, and sphincter control was not affected. His physical condition improved to the extent of enabling him to be up and about with full power of his arm, but still a slight paresis remained in the leg. Towards the end of October, 1917, however, he had a succession of fits in which the convulsions were generalised in character, and these were followed by an outburst of maniacal excitement. This condition lasted a few days, when he showed a certain amount of clouding of consciousness for the period covered by his maniacal attack, but was otherwise free from any symptoms. His chief complaint was of pain localised to the frontal

region, chiefly over the left eye. He said the pain was made worse by any exertion, and he could not stand any noise. Just preceding the fits he had hallucinations in the form of the sound of bells ringing in his ears, and then his sight seemed to go dim. In the course of the next three months this patient only had one fit which was not followed by any period of excitement.

The frequency with which epilepsy followed gross head injury in the parietal region amongst the cases which came under my notice corroborates the results already published by Roeper. (7) The only case in which there was no evidence of the skull being injured was that of a man who suffered from concussion following a collision with another man on a motor bicycle whilst despatch riding. No fracture could be detected nor was there any external indication of any injury to his head. He had, however, a small septic wound below the ramus of the lower jaw on the left side of his neck. He walked with a very pronounced limp on the right foot, and on examination there was an apparent shortening of the leg on this side. This was on further examination found to be accounted for by a tilting of the pelvis to overcome a paresis with slight foot-drop. This patient on admission also showed some right facial and arm paresis, and fits of a definite epileptic nature started three months after the accident, recurring singly at intervals of about a month. Although I think there can be little doubt that this case had an organic basis, probably of the nature of a hæmorrhage about the surface of the left Rolandic area, I am also of opinion that a functional element was superimposed, and that his gait was steadily progressing towards one of those "habit gaits" which have been dealt with very fully by Roussy. (8)

On referring to the table we find in the parietal region the only case of mental deficiency outside those already included in the frontal injuries. After having been repeatedly rejected as unfit for service this man had eventually managed to enlist in October, 1915. He went to France, and in July, 1916, was struck in the head by a bullet, receiving a fracture of his left parietal bone when trying to get water from a shell-hole. He complained of headache and dizziness and was found to have a well-marked paresis of the left facial nerve and to be quite deaf in the left ear, but apart from a pronounced mental deficiency showed no other symptoms. Prior to enlistment this man had spent his life as a hawker, but had never learned to read or write. It appears, however, that his mental defect must have been somewhat exaggerated after his head injury, for whereas he had previously been sent overseas, on return to his dépôt for duty after his head injury he was at once sent to hospital again, and it was in this way that he came under my observation.

It is in this group of parietal injuries that we find three of the four

cases classified as moral deficiency, in which the moral side of the patient's character seemed to be the most seriously affected.

One of these cases was wounded by a shell splinter just above the right ear. He was for the moment dazed, but was able to walk to the dressing-station. He was sent to the base, but only kept there a few weeks and rejoined his unit again two months after being wounded. Here he is now noted as showing marked insubordination, and his O.C., in making a note with regard to him, says "he has quite changed in his character since his head injury," and he is further described as laughing in his officers' faces on parade and seeming to have lost all sense of discipline. This man had eight years' colour service with a good character and freedom from any crime or tendency to intemperance, but since his head injury had taken to drink on the slightest provocation and seemed to have no power to resist the temptation. Further inquiry from his relatives also elicited the information that prior to his head injury he had been a staunch teetotaller and a very steady man in every way, and his character now seemed quite the opposite. This man had received his promotion to the rank of corporal in France due to his steadiness in action, and since his head injury had been reduced to the ranks.

Another case was that of a boy, *æt.* 19, who was wounded by bullet over the upper part of the left parietal region when sniping in a shell-hole near Guillemont. He had been promoted corporal eight days previously, and the good character given him by his father and other relatives when questioned about his former morals was supported by the schoolmaster of one of the large public schools where he had been educated, as well as the head of an agricultural college where this boy was learning farming when he enlisted. Whilst in hospital a few weeks after being wounded this boy became restless and showed extreme irritability. He demanded to go home before his wound was healed and threatened to run away if his request was not acceded to. He lacked self-control, and threatened to strike anyone who "crossed" him in any way. These acute symptoms to a great extent subsided, but he subsequently showed a type of "pseudologia phantastica" which it would take far too much space to enter into here. He was a notorious liar and full of deceit in every conceivable way. No reliance could be placed on anything he said or did, and his father, who, against advice, took him home, had to return him again to hospital owing to his kleptomania tendencies, stating at the same time that his character had quite altered to what it was prior to his head injury.

The third case was that of a Canadian, who apparently had always been somewhat below the average in intelligence. He received a shell-wound of the right parietal region after two years in France and

was unconscious about two hours following the wound, which, however, on examination proved to be only of the nature of a scalp wound about 2 in. long. He was subsequently returned to his unit, when he exhibited a change in his moral character. His O.C. reported that before his head injury he was a well-behaved soldier, but since then had been most unreliable, had had three court-martials, and practically lived in detention. No punishment seemed to make the slightest impression on him, and he had taken to drink and other bad habits which were previously quite foreign to his nature.

The only case returned as vertigo will be seen in the table to figure amongst the parietal injuries. This was a case following a shell-wound of the left parietal area causing an apparently superficial scalp-wound about 2 in. long in front of the anterior vertical line of Reid. On examination, however, there were definite signs of a right-sided paresis. There was probably some cortical or meningeal hæmorrhage in this case therefore. He complained mostly of dizziness, which came on suddenly, and had on one or two occasions caused him to fall but not to lose consciousness. The ground seemed to give way under him in these attacks. He also was found to have some deafness in the left ear, which on examination revealed no abnormality further than some loss of polish of the left membrana tympani. The parietal injuries also include the only case which was returned as psychasthenia. This took the form of a syphilophobia which developed some months after a bullet-wound of the posterior part of the left parietal region, which was of the superficial character.

Of the two cases of organic dementia one was after a parietal injury. This was the case of a man who had an old depression in his right parietal bone corresponding to the circular opening in the skull. His history-sheet showed that he had received this injury fifteen years previously whilst serving in China, and it was interesting to note the appearance seen in X-ray examination, suggesting that an effort had been made by Nature to narrow the opening by a deposit of osseous tissue at the circumference. This man re-enlisted at the outbreak of war in August, 1914, and went to France, but at the end of twelve months showed signs of mental deterioration, which rapidly progressed into a state of marked dementia with childishness and gross memory defect.

It was in these gross lesions of the parietal region that hemiplegias, aphasias, apraxias and such conditions were met with.

OCCIPITAL INJURIES.

There were a comparatively small number of wounds of the occipital region, and only two in all were of a serious nature. The total number

of cases in this group was 10, and of these 3 were right-sided, 2 left-sided, and the remaining 5 more or less in the middle line. Amongst those with superficial injuries was one of the three cases of epilepsy occurring in injuries of this kind. He was, however, of the constitutional type of epilepsy, and had had a fit following an attack of pneumonia when eight years old. Active service had evidently brought out this latent tendency. After burial by shell also, prior to his head injury, he had had another fit on account of which he had been removed from the front line. During the Somme advance, however, he was returned to his unit and was wounded in the hand, and it was whilst having his hand attended to at a "first-aid post" that the roof of the dug-out fell in and he was struck on the back of the head by a fall of timber. He was unconscious some hours and has since had fits at intervals of about once a month.

The two cases whose injuries were of a more serious character were both right-sided injuries and were both mentally melancholics. One had a definite depression to be felt as the result of a blow on the head from a girder of a bridge under which he was sheltering from shell-fire after being wounded in the leg. He was returned to duty three months later, but still complained of constant headaches and felt quite unable to do his duty. He was subsequently admitted to hospital in a state of acute melancholia, having made an attempt to end his misery by strangulation with his puttees. X-ray examination revealed an evident widening of the lambdoid suture, from which there was also seen a small fissured fracture running forward which had evidently not been previously recognised.

The other case was one in which there was extensive loss of bony protection at the back of the skull as the result of a shrapnel wound received in November, 1914. He had since suffered from buzzing noises in the head which made his life a misery. This man during examination admitted that he had contemplated suicide on this account, but no active steps towards this end had been made at the time he came under my observation.

TEMPORAL INJURIES.

This group accounts for 13 cases, all of which were superficial, except 3 which were cases of fracture, and in one of these metal had penetrated the skull. They were equally divided between both sides of the head, except for the last 3 cases, 2 of which were left-sided and one right.

Of the cases with superficial injury, which were of an apparently quite insignificant character, the universal complaint of severe cephalalgia was a conspicuous feature. In some cases it was so severe as to make the patient giddy and cause him to sit down.



FIG. 1.



FIG. 2.

To illustrate paper by Dr. RICHARD EAGER.

Of the more serious injuries one was a case of melancholia following a penetrating wound of the left temple by a shell splinter. Fig. 2 is the print from the X-ray plate of this case, which shows very well the foreign body in the roof of the sphenoidal sinus. Here, again, pain was the prominent symptom which had made the patient miserable. It is also of importance to note that the patient had been informed in a previous hospital that he had a piece of metal in his skull. This had not helped the patient, for it was discovered by examination that this patient had convinced himself that there must be a large piece of metal pressing on the brain and that he was therefore doomed to lifelong misery. With his troubles thus increased he considered himself better dead, and he ultimately made active steps to hasten this end by strangulation. When admitted under my observation he was in this frame of mind, and it is interesting to note that by therapeutic conversations and re-education of his erroneous ideas a marked improvement in his condition resulted, and in six months he expressed himself as quite free from any feeling of depression and stated that the pain in his head was considerably relieved. Twelve months after this man's discharge from hospital he replied to my communication asking after his condition and informed me that he was keeping well.

One of the other two cases had periods of amnesia following a depressed fracture of the left temple. One amnesic period covered two months, and was followed by other periods in which the patient seemed confused and wandered about aimlessly. The death of a brother was found to be an additional source of anxiety in this case. The remaining case was one of maniacal excitement and alcoholic intemperance following a fracture of the right temporal bone two years previously. This was a case clearly illustrating an instance of the refuge sought for in alcohol as an attempt to gain relief from persistent pain in the head, and the disastrous results which follow in cases with a previous head injury.

WOUNDS OF THE MASTOID PROCESS.

There were 6 such injuries in this series of head injuries. Three were superficial and 3 deep, and they were equally divided between both sides of the skull.

The case I will quote is that of an acute hallucinatory state with excitement in a man who had received a perforating bullet-wound. The bullet had entered below the left orbit and found its exit at the right mastoid process. The auditory nerve was completely severed, and the antrum and middle ear thrown into one. A chronic otorrhœa persisted up till eight months after the injury, when an acute condition lit up again. He developed a temperature of 103.8° F., and was for

four weeks in a state of acute maniacal excitement with very vivid hallucinations of sight. He convalesced satisfactorily in a further period of two months.

The case of dementia præcox is the one already described.

WOUNDS OF THE FACE.

The 5 remaining cases are included under this group. One was a comparatively slight injury from a shell splinter below the right eye. He was, however, at the same time blown up by the shell and subjected to severe concussion. After admission to hospital he complained of very severe pain in the head and behind the eyes. On examination he was found to have a small nodule of metal opposite the infraorbital foramen, and it was thought that there was a fracture of the infraorbital margin of the orbit. The pain persisted, and two months later he developed maniacal symptoms. These rapidly subsided, however, but the pain remained. There was no optic neuritis or other signs of intracranial pressure to account for this acute attack.

Another case was one in which hysterical deaf-mutism followed a suggested side-to-side perforation over the region of the temporo-maxillary articulation, and this man had such a miraculous escape that I think for that reason alone there would be sufficient excuse for recording his case. He was a sergeant in the Welsh Guards, and his wounds were caused by shrapnel. One bullet appears to have passed through the head from left to right just in front of the ears and above the articulation of the inferior maxilla on either side. It lodged in the wound of exit, from which it was removed. In transit it smashed the plate of false teeth the patient was wearing, but did not apparently damage the palate. A second bullet struck him over the centre of the left clavicle killing his chum next to him, and a third bullet struck a bullet-proof mirror which the patient was carrying in his left breast-pocket. It was in this way prevented from entering his chest. He managed to crawl about fifty yards to the dressing-station and then lost consciousness. About twenty-four hours later he came to himself again and found he was in hospital at the base. He was from there evacuated to England, and it was here about three months later that he lost his speech and hearing, which was restored by appropriate therapeutic methods within a few days of his admission to the psychiatric section. This is one of only two cases with hysterical deaf-mutism met with amongst these 100 cases, the other being amongst the parietal injuries.

Another case of injury to the face was that of a man who, whilst in a charge on the German lines, was wounded by a hand-grenade thrown from a German trench. He was terribly mutilated and disfigured. In

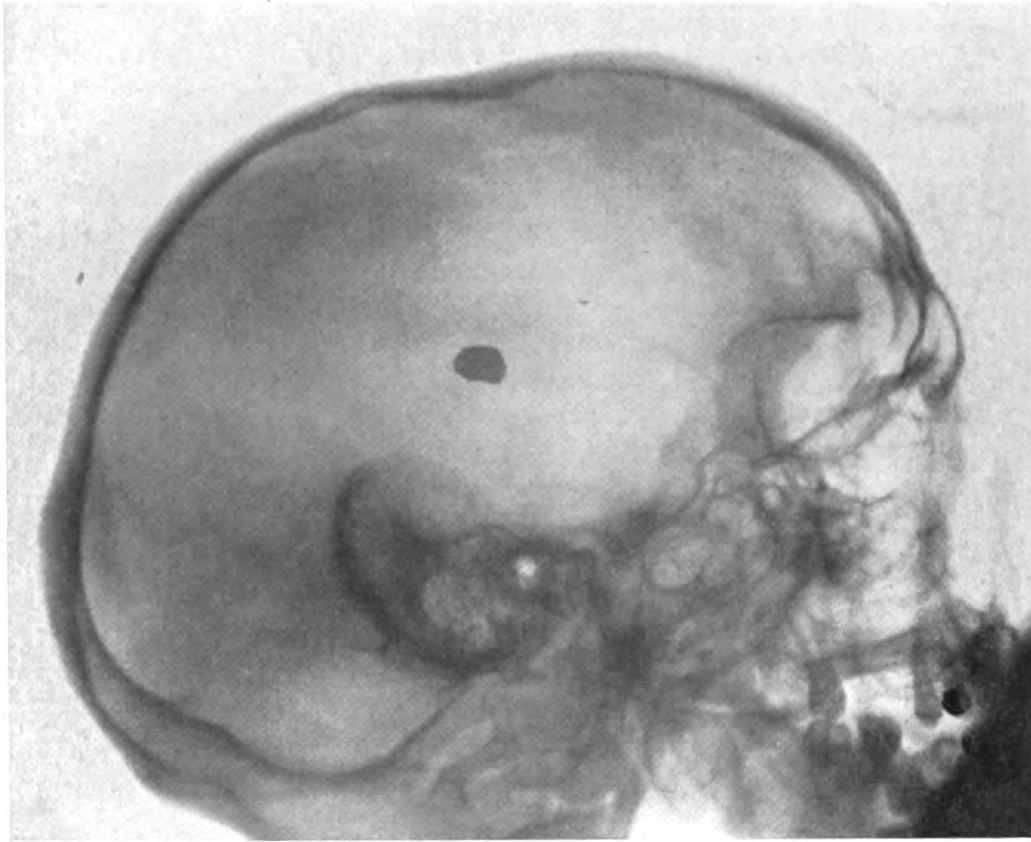


FIG. 3.

To illustrate paper by Dr. RICHARD EAGER.

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addition to losing his eye he had a fracture of the upper jaw, the front part of the alveolar margin of which seems to have been blown away. The nasal bones were flattened out and apparently lost, and his face was covered with scars. The lower lid on the right side was everted and bound down to scar-tissue on his right cheek. Ten days after his injury he became very depressed, and a few days later his condition changed into one of acute maniacal excitement. This phase lasted about a month, when he again became dull, depressed and apathetic, and refused all nourishment except liquids. This condition lasted about three months, when he steadily made improvement and regained a normal mental state. This was maintained and enabled him to be transferred to another hospital for a plastic operation.

The fourth case was wounded by a shell splinter on the left side of his face whilst asleep. He had a granulating scar extending from the external angle of the left orbital process of the frontal downwards on to his cheek and another scar on the bridge of his nose. X-ray examination showed a fracture of the outer part of the floor of the left orbit. This injury was followed by a period of amnesia lasting fifteen days, during which he was somewhat dull and stupid in appearance, but otherwise showed nothing particularly the matter with him.

The only remaining case to be described is that shown in Fig. 3.

This was a case of dementia following a shell-wound, the fragment from which had penetrated the left orbit, destroying the left eye, and lodged itself finally in the centrum ovale of the right hemisphere. It had evidently severed the internal capsule in transit, for the patient had a complete hemiplegia affecting the left arm and leg and left side of the face. This man could give little information about himself, and his memory was very seriously affected. He was extremely irritable, continually asking for food and attention, and seemed quite unaware of the fact that only a few minutes previously he had received both. His left arm was in a state of contracture, but the leg was flaccid with anæsthesia; extensor plantar reflex was present as well as ankle-clonus and increased tendon-jerks. His face was flattened on the left side, and the mouth drawn slightly to the right. He constantly cried out, complaining of pain in the right side of the head, which he referred mostly to the frontal region, and he was altogether in a most pitiable condition.

SUMMARY AND CONCLUSIONS.

In summarising my observations on this series of head injuries I will call attention to the following points:

Out of the 100 cases 49 had evidence of serious cranial injury, 14 had trephine openings in the skull, and 12 had metal still remaining in the cranial cavity.

Incidence.—From figures published up to date (9), the proportion of total head injuries to total disabled works out at 4 *per cent.*, and from the same figures '75 *per cent.* is quoted as the proportion of insane. As, however, in my experience the proportion of head injuries which occurs amongst the insane admissions in a large hospital for receiving mental patients is only 2 *per cent.*, it may be assumed that the proportion of head-injury cases that subsequently become insane is somewhere about '375 *per cent.*, which is not far removed from the ratio of insane to the population in ordinary civil life. The small number of head injuries, therefore, in which mental symptoms have developed is, I think, a point worthy of notice, and must lead us to alter our pre-war conceptions with regard to this subject.

Epilepsy.—Here again I must draw attention to the relatively small number of cases met with. Only 15 *per cent.* were epileptics, and all these occurred amongst cases with serious cranial injury except 4. Of the latter one was known to have had fits as a child.

The cases of epilepsy therefore vastly predominate in cases where there has been some gross cranial injury, and especially so where the injury was of the nature of a penetrating wound, for all except one of the 11 cases had wounds of this nature. In 4 instances metal still remained in the skull, and one case had an abscess of the frontal lobe. Eight cases had been trephined. The period of interval between the head injury and the first fit varied from a few hours to years, but in the vast majority of cases was about five months after the injury. In only one case did the fits seem to start directly after the injury, recurring at intervals of every ten days. The intervals between successive fits were irregular. In some cases they were daily, in others weekly or monthly. There were two cases of *status epilepticus*. One occurred twelve months after the injury; the other case had three bouts of this condition at intervals of five, eight, and ten months after his head injury, and he died in the last attack after a succession of eighty-six fits extending over the last four days of his life. The almost universal occurrence of these epileptic cases after injuries of the parietal region of the skull has been already pointed out. Nearly all cases with large osseous defects were epileptics, and here I wish to draw attention to the warning given to operating surgeons by Col. L. B. Rawling (10), that the smaller the osseous defect left after operation the less dangerous from the point of view of epilepsy.

Amnesia.—Of the 12 cases showing this condition as the predominant symptom 6 were frontal injuries, and 4 of these superficial. The other 6 cases were fairly evenly distributed over the other areas. No relation seems to exist between the amnesia and the severity of the injury. Half of the cases had superficial injuries; on the other hand there were instances amongst these cases of fracture of the parietal

temporal and malar bones, and one case had a piece of metal in the great longitudinal fissure. There can be little doubt that to the medical man without any special knowledge or training in such conditions these cases of amnesia present considerable difficulty. Especially when these attacks occur with "fugues" in men under active service conditions, it is not always a simple matter to distinguish them from an avoidance of duty which is purposive on the patient's part. Where, however, in addition, the man has had a definite head injury, I think a little more benefit of the doubt might at all events be given in his favour. Amongst my series of cases were instances in which N.C.Os. had been reduced to the ranks for "absence without leave" where it had not been recognised till long afterwards that these periods of absence were really amnesic fugues following on a head injury. Any effort to obtain justice for these men at this late stage of the proceedings was doomed to failure.

Acute hallucinatory states.—There were 8 cases of this nature, and in 4 of these there was a definite history of sepsis. Such a case has been described amongst the injuries of the mastoid region.

Mental deficiency.—It has been already stated that the 3 cases returned as such were cases in which the head injury had not apparently produced any fresh symptoms, but seemed to have increased the severity of those already existing, and so reduced a case of this kind to a lower level of intelligence. In addition to these cases there were, however, 12 other cases investigation of which elicited the fact that mental deficiency was an underlying condition, existed prior to enlistment, and had been superimposed by other symptoms following the head injury. Apart from cases of head injury, however, this was quite a common feature in the war psychoses generally, as has been pointed out by Major Stanford Read (11) whilst medical officer in charge of the Mental Clearing Hospital at Netley. In the 12 cases mentioned above the superimposed symptoms were of wide variety. Two cases developed epilepsy, and in both cases the injury was a parietal one, 1 became melancholic following a fracture of the frontal, 4 exhibited states of mental confusion and hallucinosis, 2 of which followed fractures and 2 superficial injuries. Two were of the amnesic variety following superficial injuries of the temporal region, 2 were of the mentally unstable type of individual, and 1 was a case in which the moral side seemed to have been the one chiefly affected.

Heredity and previous attacks.—Whereas there were 4 cases in which there was a history of previous confinement in an asylum, there were, on the other hand, 3 cases with over eleven years' continuous service in the army with good character. Of the former also it should be mentioned that 1 case had a kick in the forehead from a horse, causing a fracture of the frontal bone, prior to his admission to the asylum. An inquiry

into the family history of the remaining cases brought forth no evidence of conspicuous neurotic tendency, and therefore it seems difficult to support any argument that hereditary predisposition is a factor of any great importance in these cases.

Alcoholic intemperance.—Out of 14 cases in which it seemed that alcohol was an associated factor, further investigation showed that in 8 of these cases the intemperance had developed since the head injury. I am of the opinion that the tolerance to alcohol is considerably diminished by head injury, and it is probable that the injury brings about a loss of power of inhibition in this respect.

Other symptoms.—The commonest subjective symptoms were a feeling of restlessness and irritability, a lack of confidence, and an inability on the part of the patient to concentrate his attention on anything. One case expressed himself as follows: "Before my head injury I used to fear neither God, man, or the Devil, but now I have a feeling that something stops me doing things I used to do." This feeling seemed to be practically universally present in greater or less degree, but not more conspicuously so in injury of any one area more than another.

Pain was also a fairly constant symptom varying in intensity, though generally severe in character, and usually, but not universally, referred to the site of injury. Noise seems to make the pain worse, and it is invariably aggravated by stooping. The common occurrence of headache, which was so often of a persistent nature, no doubt accounts for the high percentage (22 per cent.) of cases of the melancholic type. In many such cases one not infrequently found that the pain had been so severe that the patient had taken on duties involving exceptional risks with the sole object that by so doing he would find a final release to his sufferings. The refuge sought for in alcohol as a relief to these symptoms has also been referred to, and needs no further emphasis here.⁽²⁾ Pain was comparatively rarely complained of in cases where there had been a trephine operation, except as a premonitory symptom to "fits." The constant unbearable pain complained of in the cases with apparently superficial injuries was, however, not met with in those trephined. In the case already described amongst the occipital injuries in which there was a large deficiency of bony protection at the back of the skull pain was not complained of. Here it seems that the hallucinations were responsible for the melancholic state. It seems, therefore, clear that pain associated with apparently superficial injuries is to be regarded as of some importance, and the number of cases who had been returned to duty still complaining of pain shows that this is not sufficiently often regarded as such in these cases. A case in point received a superficial wound of the skull on October 21st, 1916. He managed to land in hospital in England, but was eventually discharged to his dépôt still complaining of pain. He could gain no relief for

this, and a month later he volunteered to return to France. His wish was acceded to, and four months later he was sent back to England again as unfit to perform his duties. He was in hospital two months when he was again discharged as fit for duty, but still complaining of the pain. Two months later he was admitted to hospital again with a cut-throat wound. Another patient with a similar history and the same intention conceived the somewhat unique idea of achieving this end by completely severing his right tendo-Achillis. Other cases could be mentioned, but I think these are sufficient to emphasise the importance of pain in the head as a symptom in cases of head injury, even though this seems to be of a superficial character.

X-ray examination.—No relationship can be found to constantly exist between the apparent injury or superficial scar and the actual damage to the skull, and therefore I feel that X-ray examinations should be more universally made in the cases in which the head injury appears to be of a superficial nature. Some do not seem to realise the importance of this, whilst others definitely discourage the use of X-ray examination in cases of the psychoneurotic type on the ground that the information so obtained is sometimes conveyed to the patient, on whom it has a detrimental influence.⁽¹²⁾ Such a case, it must be admitted, was met with amongst this series of head injuries and is shown in Fig. 2. But with the proviso that information obtained by this method of examination will not be unnecessarily handed on to the patient I would urge its more general application, for there were many cases where gross injury to the skull was found in which X-ray examination had been neglected prior to admission to the psychiatric section. One man had been blown up by shell and was unconscious when found. His mouth was then drawn slightly to the left side, but this soon returned to normal, and his chief complaint was of thumping pains in the head. Three months later he developed epileptic fits. There was no evidence of head injury to inspection or palpation in this case when he came under my observation, and had it not been for the information gained by X-ray examination an extensive fracture would have escaped detection, and little credit would have been given to the patient for his head injury.

Conclusions.—In considering these cases of head injury in detail one is struck by the impossibility of grouping them in any way which would show any relationship between the mental symptoms presented and the site of the cranial injury. Holländer, in his book published in 1910⁽¹³⁾, described a whole host of cases of head injury, and argues that injury of the frontal region produces loss of self-control going on to dementia, injuries of the parietal region produce symptoms of melancholia, injury of the temporal region mania, and that emotionalism and loss of inhibitory power over the muscles that express the affective state

follow injuries of the occiput. But I am unable to support his findings. On the other hand, it seems clear that epilepsy is most commonly met with where there has been gross damage to the walls of the skull, and especially so when in the parietal region. Pain is an important symptom almost universally present even in quite trivial injuries, especially so when such occur in the temporal region, and I wish here to lay emphasis on the necessity for more sympathetic consideration to be given to it than appears to be done by many medical officers dealing with such cases in surgical wards. Further, it is deplorable to observe how the attitude of the average physician or surgeon completely changes towards his patient who presents any symptoms which cannot readily be accounted for by physical causes. He at once loses all interest in the patient, which I venture to suggest is instantly recognised by the patient and only adds to the distress of the latter, with often fatal consequences. A definite irritability of temper and loss of power of concentration was an almost universal accompaniment in these cases of head injury, without any indication that it was more pronounced or more commonly present in injuries of any one special region of the head. It seems, as MacCurdy(14) says, that in many cases in which there have been gradually accumulating difficulties not sufficient to incapacitate the patient there is a sudden increase of symptoms following even a mild concussion, and that in the low state of mental tension consequent on cerebral injury higher functions are in abeyance, and the unconscious and instinctive tendencies readily gain the upper hand. A great number of cases on analysis showed the existence of mental conflict of repressed complexes, as is so ably described by Hart(15), and treatment on psycho-therapeutic lines in most cases speedily relieved the mental symptoms, and in not a few instances the headaches also seemed to be diminished in severity. It has been pointed out by Farrar(16), Turner(17) and Hart(18), and is now generally accepted, that the "traumatic neuroses" in which every nervous phenomenon including dissociated states of consciousness are exhibited are "functional disorders" brought about by the psychic and not the physical shock. So it seems that in these cases of "traumatic psychoses" with head injury the mental symptoms were referable to psychic rather than physical causes.

I am much indebted to Capt. W. H. Hooton, Radiologist to the Lord Derby War Hospital, for much time and trouble spent in furnishing me with X-ray reports and photographs.

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(¹) Paper read at the Autumn Meeting of the South-Western Division of the Medico-Psychological Association, University College, Bristol, October 24th, 1919.

(²) Since writing these views, the author is glad to find that Stanford Read in *Military Psychiatry in Peace and War*, published by Lewis & Co., expresses somewhat similar views. This book is highly commended.

Some Points of Interest in connection with the Psychoneuroses of War.(¹) By GEORGE RUTHERFORD JEFFREY, M.D., F.R.C.P.E., F.R.S.E., Medical Superintendent, Bootham Park, York.

UPON the outbreak of the recent war, most of us, after experiencing a transitory phase of almost breathless suspense, passed, I think, into a state of apprehensive ignorance. Inwardly we had a feeling of uncertainty, but had indeed little idea of what the war would unfold; still less did we realise that we would have to face and counteract such countless schemes and devices which had been prepared for our destruction. As time went on we gradually found that we were almost instinctively prepared, or, at least, in a position to react and protect ourselves. Such a state of affairs was not an experience confined to any one branch of the services: the medical department experienced the same. Very soon this department recognised that difficult times were ahead, and that they would have to treat, not only the ordinary battle casualties, but many other conditions apart from ordinary surgical and medical cases. So the various specialties of medicine were affected, and none more so than that which dealt with affections

implicating the nervous system. Soon the authorities had to give special attention, not only to the care and treatment of the many cases of undeniable mental disease, but also to a greater problem, namely, the large group of conditions comprising the psychoneuroses. There began to appear endless literature on the subject, which is still forthcoming. I mention this fact principally in order that it may be realised how difficult it is even to attempt a brief *résumé* of this important branch of medicine, comprising the psychoses, neuroses and psychoneuroses. In addition I do not feel justified in expressing definite opinions, generally speaking, largely on account of the limitations of my military experience. I had not the opportunity of seeing such conditions in the front lines, nor at the large base hospitals abroad, for, during nearly the whole of my time in the army I was stationed at a military hospital in this country. In this hospital, however, I had the opportunity of seeing the more advanced cases of shell-shock, neurasthenia and allied states. I shall therefore confine my remarks chiefly to these conditions.

I say "allied states," for in considering the question of shell-shock we cannot eliminate neurasthenia, and even psychasthenia and hysteria. Instead of using the term "shell-shock," I would prefer to call it "nervous shock." It was perhaps unfortunate that such a term as shell-shock was generally adopted. Although its precise meaning is vague, the term is used to include a vast number of cases presenting obscure symptoms, and is indeed a useful basket into which can be thrown the vast number of cases which present mental symptoms without any apparent wound or injury. In this respect the term answered admirably; not only so, but it had about it in the eyes of the public a plausible ring with an air of scientific accuracy. To the sufferer himself it appealed, and it is, I think, in this respect that the term is open to criticism. I have met with many men who, when told that they were neurasthenic, became bitterly resentful, and asserted that neurasthenia was the very last thing they were suffering from, and that their condition was one of shell-shock. To a certain type of neurasthenic the term "shell-shock" appealed. It savoured of the noise and din of battle, screeching shells and great explosions, causing, not a giving way to pent-up emotion, but a collapse of the nervous system from actual wound. Still, we must remember that never before in history has the human frame been exposed to such ordeals and strains, and if in civil life shock is capable of producing a nervous breakdown, all the more would it do so under the truly appalling trials our men had to face. I think I might at once refer to the belief held by many people, medical men as well as laymen, that this condition—shock or neurasthenia—was but another name for what is vulgarly known as "funk." Although in some cases we undoubtedly had to raise the question of "funk" or malingering, I would point out in con-

tradition to this belief (1) that often the worst cases occurred in those whose pre-war as well as actual war history could stand the most careful scrutiny, and establish beyond the slightest doubt that those in question had been normally men of steady and fearless character. (2) That in a very large number of these cases we met with men who, although undoubtedly neurasthenic and far from fit for duty, pleaded to be sent back to the fighting line. (3) That precisely the same symptoms appeared in the seasoned soldier as well as in the soldier with little battle experience. (4) I have known cases to be returned more than once to duty, in entire concurrence with the wishes of the individual, only to break down again.

Regarding the ætiological factors in the causation of this condition, in previous campaigns the occurrence of mental disorders was by no means rare, and the study of mental diseases was no new branch of medicine; and yet, at the outbreak of the great war, the attitude of a large section of the army medical department was similar to that of the general public, who thought, and perhaps naturally, that those who were afflicted with mental disease were but useless burdens, little deserving of sympathy. These unfortunate invalids, in many cases the pick of our manhood, who, after the dreadful trials, privations and suffering of the first few months of the war had broken down, mentally and nervously, received, I fear, but little sympathy. Such a state of affairs was bound to exist at first, and amidst the bustle and burdens of the task that lay before the authorities in making provision for the wounded it was only natural that such conditions received only moderate attention.

As time went on, however, it became apparent that nervous and mental diseases were going to claim a considerable number of cases, and, this being so, provision had to be made not only for recognising such states, but for treating them skilfully.

In support of these remarks, I recollect in the early days of the war having seen discharged soldiers who, having broken down on service, were finally committed to an asylum with a definite mental diagnosis. I can recall the case of a young man who came under my care as a case of dementia præcox, an incurable and, at times, supposed to be a dangerous lunatic, but his was a case of adolescent neurasthenia—at that time perhaps a somewhat rare condition; under proper treatment he eventually got quite well. Time showed that these were the kind of cases which were going to be very numerous, and would form an important group of cases requiring competent and skilled treatment.

Did the war produce any new or definite psychosis is a question which is constantly being asked, and concerning which opinions greatly differ.

Some assert that, although the war undoubtedly produced many cases of mental disease, it provided nothing new. With this opinion others

are inclined to disagree, and although they admit that perhaps there was produced no new actual mental disease, there occurred many mental types the origin and development of which were different from those of peace time, and especially did we meet with a great number of so-called borderland cases. Let me sketch what happened. The country, after a period of suspense, was plunged into war: there was a sudden departure from the ordinary existence, acute suspense and excitement prevailed, and then there followed a chain of circumstances hitherto quite foreign to most, and of such a kind as was bound to exert an influence on the nervous system of even the strongest man. A wave of uncertainty swept over the nation; the leap into the dark unknown, the noise and the bustle, the breaking up of homes, the feeling of possible separation and death, were but a few circumstances which were bound to exert some influence on the emotions and feelings of the strongest. Under these preliminary adverse circumstances many broke down—those who were mentally weak or unevenly balanced, and those of emotional temperament. But it did not end there; our men were to face more terrible circumstances and ordeals which undoubtedly produced and accentuated feeling of pent-up emotion; then came the actual physical fatigue of marching, and the many hardships, alarms and nerve-racking sights. These were common to all combatants, and undoubtedly here again many broke down, and others who did not actually break down became mentally weakened—they became, in other words, suitable persons for future collapse, if not indeed potential neurasthenics. At first it would appear as if almost all should break down, but this was far from being so; nervous systems adapted themselves in the most extraordinary way; not only so, but the inherent stamina of the race showed itself. Thus there were in the first instance the so-called weaklings who broke down almost at once, even during training. Then came the second group: those usually with a poor heredity, who had been weakened mentally by their initial experiences, and broke down whenever they approached the battle zone. I can recall many such cases. One case was that of an officer, never very robust mentally, who told me that everything in connection with his military training had worried him. On his way to the front the train in which he travelled was bombed: he almost at once broke down, had a so-called hysterical fit, was evacuated to the base, and admitted to hospital in England suffering from neurasthenia. The third group comprised those soldiers, in many cases regulars and the pick of the army, who had experienced considerable active service, but who eventually broke down and became nervous wrecks. I can illustrate this group by the case of a young officer—a regular—who went with the first draft of men to France, and saw a great deal of service for three years before he broke down. He was strong and muscular, and a great

athlete. He was present at the Mons retreat and marched for almost seventeen hours at the head of his company, carrying, not only his own kit, but that of another. On halting for the night he took sentry duty himself as he considered he was the fittest man in the company. In the morning he led a counter-attack, and was but little the worse for it. He fought on for nearly three years, full of pluck, enthusiasm and endurance. One day he was making observations from the inside of a tall chimney with his sergeant. A shell struck the chimney, making a large hole and carrying away the climbing supports. His sergeant fell to the ground and was killed. He had to descend, and yet the supports were gone. Without thinking he released his grip, and trusted that he would catch on to a support further down the chimney. This he accomplished, perhaps owing to the fact that he was a great gymnast. Immediately after reaching the ground the chimney fell, and he was buried in some of the *débris*. When rescued he was dazed and speechless, and finally was admitted to hospital suffering from a severe attack of neurasthenia. Such a case illustrates most forcibly that even the strongest may in time collapse, and the wonder is that more did not break down under such constant and terrible trials.

I will now briefly detail the ætiological points which appear to be common to psychoneuroses.

Predisposing Causes.

(1) A neuropathic constitution is a potent factor, and may be hereditary or acquired; I prefer, however, to call it "the emotional temperament," a term which I first used in a paper on "The Cause of Neuropathic States."⁽³⁾ Those who inherited this diathesis had not much chance, and furnished most of the cases who broke down almost at once. Then the condition may be acquired. I have already shown that even the strongest man may become so much weakened that he readily, under adverse circumstances, breaks down. The neuropathic constitution does not remain latent, but shows itself under circumstances when the emotional reactions are brought into play, and may reveal itself by an exaggerated expression of the mental and physical reactions of the emotions.

(2) In fatigue, mental or physical, we have another factor that is of paramount importance. By its depressant action it involves undoubtedly a great expenditure of energy and produces a general weakening of mental tone.

(3) Effects produced by temporary shortage of food and the intoxications.

(4) An ætiological factor also of importance, I think, in producing a lowered, or, at least, changed mental state, is that to be found in the

mental effect produced by distaste or disappointment in the person suddenly passing from an important civil position to the position of an ordinary soldier.

Exciting Causes.

(1) In direct concussion, no matter whether the individual has been thrown to the ground, against the wall of a dug-out, or actually struck on the skull by any object, there is a shaking of the nervous system. Although this may cause a psychopathic disorder, it more readily produces an organic lesion. Indirect concussion, on the other hand, produces almost exclusively neuropathic symptoms.

(2) Along with concussion we must consider local trauma which causes motor and sensory changes in some part of the body. It produces first of all an emotional state, and then, under cover of this, the idea of some disorder is suggested, *e. g.*, a severe shock to a limb may produce a temporary paresis. In the normal individual this rapidly passes off, but in the neuropath the idea of immobility becomes fixed by auto-suggestion.

(3) There is the share taken by emotion and suggestion in psychoneuropathic conditions. Regarding this many questions require an answer, *e. g.*, To what extent is emotion responsible for the establishment of the symptoms in the psychoneuroses? How far does emotion extend? What is emotionalism? What are its physical and mental reactions, etc? Dejerine and Gauckler in their book on the psychoneuroses say that emotion may be of external or internal origin. First of all as regards emotional strain of external origin, a person may receive some great shock—physical or mental—without any warning. The shock may come in the form of sudden and great joy. In these, the common factor is that the person passes from one situation into another for which he is quite unprepared. Between great shocks and slight emotional stimuli there are many grades.

Emotional stimuli may be of internal origin, *e. g.*, the memory of some previous shock, the feelings of impending grief or catastrophe. Generally speaking emotion is a reaction of the personality, and, as an immediate result, may completely overthrow the equilibrium of the subject. As a rule the psychic disturbance is passing, followed by a return to normal mentality. But this may not be so. The primary effects of the emotional stimuli may remain until the appearance of the later phenomena, constituting by the symptoms they produce the majority of the functional troubles.

But the person who experiences one emotional shock does not become neurasthenic unless he has been unable to free himself from the memory of the emotion, which continues to return again and again.

He cannot adapt himself; his mental energy begins to fail; the will becomes powerless and he is over-ruled by preoccupation. In other words the neurasthenic state follows his inability to adapt himself to continued emotional stimuli.

The two chief exciting causes of a neuropathic disorder are the revival of an emotion, and secondly auto-suggestion created by emotion. It is known, for example, as Roussy and Thermitte point out in their book on the psycho-neurosis of war, that shock to a limb caused by a projectile of high velocity may immediately produce a transient but complete motor or sensory paralysis, but which in the normal individual rapidly disappears. It is quite another matter in the neuropathic, in whom this impotence becomes fixed and made stable by the action of auto-suggestion.

The Symptoms.

I will now briefly indicate the symptoms of the condition, and for convenience shall divide them into early and late. The early symptoms hardly concern us except inasmuch as there is a tendency for them to continue—perhaps in a more chronic or more intensified form—in the later stage of the illness. A common history is as follows: Explosion of shell; the patient is buried completely or partially, and rendered unconscious. On regaining consciousness some of the following symptoms may be noticed: intense headache, nervousness, tremors, epileptiform attacks, choreiform movements, motor disorders, monoplegia, hemiplegia, paraplegia, disorders of gait, disorders of hearing and of speech, contractures, and, in addition, pronounced general symptoms of early neurasthenia, as, *e. g.*, insomnia, loss of initiative and will-power, lack of power of concentration, altered heart action, etc. Later, there may occur many of the symptoms of the early stages, perhaps in a more intensified form, and, in addition—and this is a point of importance—we have a prominence of psychical disorders. They are the psychoneurotic sequelæ of the most persistent symptoms which remain and which we are called upon to treat.

The most important are:

- (1) Headache.
- (2) Loss of memory and lack of power of concentration.
- (3) Disordered action of the heart.
- (4) General nervousness.
- (5) Disorders of special sensation.
- (6) Insomnia.
- (7) Persistent and terrifying dreams.
- (8) Exaggerated tendon reflexes, etc.

Two cases are related which bring out vividly many important points in connection with symptoms.

The first is that of an officer who had seen considerable service. During a very heavy bombardment a shell struck the roof of the dug-out where he was with several other officers. The other occupants were killed, and he himself was partially buried, and was firmly fixed to the ground by a beam of wood across his shoulder. Eventually he lost consciousness, and remembered nothing until he awoke in a casualty clearing station, and from which he was sent to the base. He was then intensely nervous, suffered from headaches and loss of memory, insomnia, battle dreams and tremors, and his left arm was firmly contracted with the shoulder raised. There was general bruising of the shoulder and arm, but nothing more. He was evacuated to England. After a time he improved generally: practically all the symptoms of neurasthenia had disappeared, but there remained the contracture. I administered chloroform and made certain that there was no complication from fracture, although there were naturally some adhesions at the elbow, and which I broke down. Gradually as he came out of the anæsthetic his arm began to contract, and when completely conscious the contracture was as marked as before. In the course of my talks with him I convinced him that it was only a functional condition, and that he would get quite well. Moreover I told him that I would give him some massage, but that on a definite day—three weeks was the time that I mentioned—his arm would be quite well. At first there was no change in the contracture under treatment, until the three weeks had almost elapsed; then suddenly it improved—he got again complete use of his arm, gained strength in every way, and, at his own request, was returned to duty.

The second case shows very extraordinary symptoms, both mental and physical. This was a case which I studied very carefully, and might be described as one of traumatic neurasthenia. Along with my notes of the case it is fully quoted in Lt.-Col. Marr's book on the *Psychoses of War*, and briefly the facts are as follows: The patient was an officer in the Royal Air Force, and during a hostile raid over London was caught in the fire of his own barrage and crashed to the ground—a distance of 10,000 feet. He was unconscious for three weeks, at the end of which time he was given leave. He was recalled and sent to a bombing school, but his memory for the next ten weeks was a complete blank. After some trouble with the military authorities he was "boarded" and given leave, towards the end of which he got married, but, not only did he not remember the marriage ceremony, the place or the church, but he did not marry the girl to whom he was already engaged. He recollected having many strange ideas, *e.g.*, he thought that he was a cuckoo or a cow, and these he would imitate. He was finally admitted again to Hospital, and, on admission, was intensely confused and emotional, with complete loss of memory.

The nervous system showed the following symptoms :

- (1) Giddiness in changing his position or raising himself in bed.
- (2) Inability to stand with his eyes shut, a tendency to fall to the left, and inability to walk on a straight line.
- (3) Inco-ordination of the upper limbs.
- (4) Defective sense of smell—first cranial nerve.
- (5) Diplopia of right eye ; paralysis of right external rectus muscle—sixth nerve.
- (6) Twitching of right upper and lower eyelids (third nerve).
- (7) Squint ; limitation of right lateral visual field ; rotary, and at times, lateral nystagmus.
- (8) Deafness in left ear ; bone-conduction *nil* ; eighth nerve.
- (9) Superficial and deep reflexes exaggerated.
- (10) Ankle and knee clonus, but no Babinski.

These symptoms undoubtedly suggested an organic lesion, but they were due to toxic neurasthenia. With rest and general treatment he improved, although his symptoms varied from day to day. Then one night he had a very vivid dream—that he was falling to the ground in a bright red flaming aeroplane. When I visited him in the morning he told me of this and said that his memory had returned, and he was able to relate in detail much of what had happened. Gradually he improved, and he was eventually discharged and sent to his home. This case was of fascinating interest, and much time could be taken up in discussing it in detail, but I am convinced it was a traumatic psychosis with a toxic neurasthenia, and it is certainly interesting as illustrating the extraordinary complexity of symptoms in such a condition.

Treatment.

The treatment of shell-shock, or rather of the sequelæ of this condition, is intensely difficult. Unlike many diseases, the many obscure symptoms which are present cannot be lessened or helped by actual drugs. And yet there is much that can be done. Nothing, however, can be done unless we understand the condition with which we are dealing, and it is perhaps this feeling of ignorance that is so much against us—it causes hesitation and uncertainty, which is very readily recognised by the patient. With the physician there must—outwardly at least—be no room for doubt : he must be ready to attempt to explain to his patient, and in as convincing a way as possible, that he is the master of the disease, and in the treatment of such conditions this is half the battle. I shall not deal with general therapeutic measures : it is important that these should receive careful attention. It is important also that the physician should deal most tactfully with any bodily ailment from which the patient may suffer, remembering always that carelessness in the recognition of this may be the means of losing

the patient's confidence, whilst undue attention to the ailment may be the means of creating fresh and false impressions of its significance. But there are certain therapeutic measures which perhaps may appear trifling, but which are, in reality, of the greatest importance, and to these I shall refer in more detail.

Sympathy.—The importance of sympathy cannot be over-estimated. There must be shown towards the patient all possible sympathy, remembering always that to him the illness is painfully real. In the first few interviews much will have been accomplished if the patient has been made to realise that the physician feels for him in his suffering; and never by word or look should he be given cause to infer otherwise. But, with the sympathy, there must be firmness—that is to say, although sympathy must be shown, he must be induced to face his illness in a manly way, and impressed that even the most persistent of symptoms will eventually disappear. Sympathy must be real, for unless the sympathiser has an appreciation of the patient's condition and can look at it as he does, he cannot really feel with the sufferer. True, manly and firm sympathy is, I hold, the greatest therapeutic measure that we have in such cases. Its therapeutic action, however, is not like that of a drug; it is more—it is the action on sensitive nerve-cells. It plays upon the emotions, creating in the sufferer a feeling of trust, and this has its effect, for it almost forces him to unburden the "subconscious": it gives the physician a chance of getting well acquainted with the contents of mind; it enables him to link up circumstances, and is the keystone to all further treatment. I cannot lay too much stress on the importance of doing everything that is in one's power to obtain the patient's confidence at the beginning. It has often been said that it is bad for the patient to make him talk about himself, or his worries. But, I ask, How can a physician rid the patient of his troubles without first of all discovering what they are, and then discussing them with the patient? Without getting at the root of the patient's trouble, it is quite futile to tell him to cheer up, stop worrying, go and work, etc.

Secondly, isolation is of importance, and should be in the first instance always attempted. It removes the patient from many circumstances which would be harmful. But occasionally it does not succeed, and should never be persisted in when it causes worry, undue annoyance, or a tendency to depression. It is also of importance to explain to the patient why isolation is necessary—namely, to remove a sensitive nervous system as far as possible from the ordinary worrying, although perhaps trivial circumstances of life. Still, speaking generally, isolation—more or less severe—is usually helpful.

Hypnosis and suggestion.—The efficacy of this method of treatment has, I think, been established beyond doubt, but it is a form of treatment which must be used with great caution; it cannot be employed in

a haphazard way, but must always be used with a definite object in view, and with a full knowledge of what result is to be looked for. With reference to this method of treatment there is nothing obscure. Suggestion is the keynote of successful treatment, and, as I have already pointed out, the *soil* upon which it is to be placed can first of all be prepared by sympathy. Thus, to cure a mental state, we are not going to employ drugs, but are going to attack this mental state by mental methods. It is, in fact, the influence of one mind upon another.

Hypnosis has been used in several ways. It was extensively employed in the acute cases to cure such conditions as mutism, etc., and in which it answered admirably. It has been used alone to calm the patient and bring about natural sleep. It has been employed to recall past memories, make the patient live through his experiences again, and get at the early points in connection with the illness. And it has been employed as an aid to suggestion in patients who are so much obsessed by their own beliefs that the physician cannot in any way influence them—acting by breaking down resistance, and preparing the soil for suggestion. This method of treatment I have employed with considerable amount of success, and, although I never had the opportunity of using it in the early cases, I have used it in many others, and have been able successfully to attack the more chronic conditions like paralysis and contractures—the most difficult of all to treat. As a method of inducing sleep hypnosis is most valuable; as an aid to suggestion its usefulness is undeniable; and further, it has, I am certain, a distinct place in the therapeutics of mental diseases when used with skill, discretion and care. It has been said that it has no lasting effects, and is but a passing stimulus, but with this I do not wholly agree. The treatment must be persevered with and continued, and undoubtedly it can help in the restoration to health of the long-standing and persistent cases of shell-shock in a manner quite unrivalled by other means.

There is but one thing more that I would mention in detail, and that is the persistent battle dreams, which are often so vivid and so difficult to get rid of. Most people would say to the patient: "Don't think about your experiences when you go to bed." Well, this is entirely wrong, for the impressions become buried in the subconscious mind, and then come into the conscious during sleep. The patient should be told that, after he is in bed, he should carefully write out and read over the dream that has troubled him, and you will find that if this is done a few times the dream will disappear altogether. This certainly is my experience.

This does not, however, exhaust our methods of treatment; we have still one other which must be mentioned, although it is but an accumulation, a gathering together of all our means of treatment, and making a combined attack on the mental state, the mental life, past and present, of

the individual, using what means we can to get right to the bottom of an almost unfathomable condition, building up and pulling down, cleaning out and renovating, so that everything is cross-examined, every symptom correlated with its casual facts. And such a method of treatment we call "psycho-analysis." It is, at least, my conception of psycho-analysis, and is really a breaking up of a mental state into the component parts, understanding each part, so that they can be fitted again with accuracy just like a jig-saw puzzle. Anything out of place is, therefore, readily recognised, and re-education can be attempted.

The treatment of psycho-neuroses is no simple matter. Probably it is just about the most difficult kind of treatment in the whole of medicine. And why? Because we are dealing with that noumenon, the mind, by which we think, we feel, and we act. Obscure and numerous are the laws which govern our inheritance, and equally so are those which lead to the transformation of matter into mind. It ill becomes us to be dogmatic about anything in connection with psychology, but there is one thing that I am certain of, and it is this: that in the treatment of all mental cases, be they psychoses, neuroses or psycho-neuroses, it is essential that the physician should be a man of calm, thoughtful and sympathetic nature, and of sound common sense.

(¹) A paper read at the British Medical Association meeting (Scarborough Branch), December 10th, 1919.—(²) Ref. *Brit. Med. Journ.*, November, 1910.

Reform of the Penal System in Scotland.(¹) By JAMES E. SHAW, D.L., Hon. Sheriff Substitute, County Clerk and Clerk to the Ayr District Board of Control.

Apologia.—In presenting this paper I must crave indulgence. I feel rather in the position of an inexperienced player who, from a spirit of good nature, has been induced to "make up a 'four' at bridge." He will be lucky if he does not find at the end of the game that his good nature is taken less into account than his presumption.

It is not my design to deal exhaustively with this subject, which is far too wide in its scope, too complex in its nature, and too important in its character to be brought within the scope of a short paper, I propose to submit for your consideration one or two alterations of our penal system in Scotland which may be more or less far-reaching, but which, with your forbearance, I hope to show by consecutive reasoning to be at least worthy of serious investigation.

The subject.—The subject may be gruesome, but in this respect does not so much concern the members of this Society as some of our clients; it is of interest to the theoretical lawyer, who may like to trace

the principles underlying the constitution of a penal code from the days of a nomadic existence through various stages to present-day commercial and social life ; it is not devoid of humour and is full of romance, but withal practical from the present-day point of view ; and it is from this aspect that I propose to review certain circumstances of the penal system in Scotland.

The object of a penal code or system in all well-regulated countries ought to be primarily for the *prevention of crime*, and to establish *protection from crime* to the community, and only incidentally as a means to these ends to provide suitable and relative *punishment for crime*, on conviction before a competent, fair and upright tribunal.

The punishment should not be vindictive, or designed and put into effect in such a way as by hurt or injury to the criminal, in body, mind or estate, to satisfy thereby the vengeance of the outraged person or public. It should not amount to mere retaliation, which in itself injures the avenger no less than the avenged. The punishment should be educative or instructive, to the extent, at least, of showing that the game is not worth the candle, and thereby teaching the criminal that it is to his advantage to cease from crime, as well as to cause the potential criminal to abstain. It should also be curative, whether by supplying the want, removing the defect or changing the circumstances under the influence of which the crime is conceived and committed.

When looking back upon the horrible and revolting punishments inflicted upon criminals in Scotland within the comparatively civilised period of the last two hundred years, one is forced to the conviction that our worthy old jurists were bent upon vying with the vengeance of the Almighty as depicted in the Old Testament, and came out of the contest with flying colours ; or, alternatively, that nothing but the most severe measures would knock sense into the heads of the hardened sinners of that day and generation and deter them from crime. The keynote of the penal laws of that period, which in the main were remarkably sound, was undoubtedly revenge—an eye for an eye—nay, probably two eyes, *e.g.*, in hanging a man for stealing a sheep. I am one of those who consider that a great deal of harm is being done in the present age by a silly, sloppy sentimentality ; but I think there is room for a great deal of improvement in the existing methods of discovery of crime, the detection and trial of criminals and the treatment of convicts.

Of recent years there have been immense advances towards the perfecting of our penal system on the lines indicated ; and before discussing proposals for the removal of existing blemishes, it is well worth while to examine the very able writings of some of the modern controversialists, among whom I should like to mention more particularly the late Dr. Charles Mercier. It appears to be

constitutional in such writers to set aside ruthlessly the theories of their predecessors as "unwarrantable in assumption, loose and inaccurate of thought, vague of description, superficial of observation, and dogmatic in assertion of absurdities as incontestable truths." This leaves very little to be said in the way of caustic criticism. But I, being of a more enlightened school, prefer to accept and adopt each in their turn as advancing the movement at least one step, and, building on their foundation, to add my stone to the structure, well knowing that we are yet far off the completion of the edifice.

Crime.—Crime is the commission or omission of any act whereby is constituted an offence punishable by law. Every act or action of life is instituted by two essential factors, the one internal, the other external. This is true of all vegetable, insect and animal life. The internal is inherent in its kind, while much more potent in some individuals of the same species than in others. But all of the same species are to some extent possessed of the same inherent characteristics. The external factor may be persistent and cumulative, and will accordingly have some influence in developing or diverting the inherent qualities, or it may be only incidental and temporary, so as to provide an opportunity for the exercise of an inherent ability. The external factor will also vary in intensity and in the influence it will have upon any individual of the species, but both the inherent and external qualities will together and in combination to a varying degree influence the actions of any individual under any given circumstances. This principle must apply equally to every act, including a criminal act.

The internal factor may be called heredity or original sin, or any other term, but there is undoubtedly an inherent ability to commit crime in every human being, which requires the external factor introduced as a partner to enable the crime to be committed. The hereditary or original or inherent instinct will be influenced by moral upbringing and surroundings or habits acquired in early life. The external factor, whether called environment, free will or some other phrase, is dependent upon outside influences, such as motive, temptation or opportunity, which will affect the actions of any individual in direct ratio to their force upon the inherent quality of that individual. To cause a crime to be committed, therefore, it is necessary that there should be a strong inherent propensity, combined with slight outside influence, or slight inherent combined with strong outside influence. An extremely criminal mind will be influenced by very slight motive, yield to slight temptation and probably make its own opportunity; whereas an upright mind would require the incentive of a powerful motive, combined with an opportunity which would in itself amount to an overwhelming temptation. The extent of motive plus temptation plus opportunity plus inherent proclivity in varying degree being the necessary combination

to constitute a criminal action should, therefore, be taken into account in assessing the extent of turpitude or baseness of the crime.

The criminal.—It is a common mistake to speak of “the criminal classes” when meaning the submerged class. We know that crime permeates all classes, that every human being is born in original sin, and we have seen that in each and all of us there is an innate disposition to crime which only requires a sufficiently powerful motive, temptation and opportunity to complete the combination for effective crime.

In early days, as appears from the Hebrew and Ancient Greek writings, there was a very general distinction of the people, families or tribes into the good and the bad—the sheep and the goats—and whole families or tribes were ruthlessly decimated as unrighteous. This may have been due to the paramount importance in those days of racial or sexual proclivities, in crime, which having an adverse effect on the progress of the race, must be stamped out like swine fever in pigs, and very much by the same method. From that idea of propitiating the anger of God by cutting off all wrongdoers, through various stages we come to the view that it would be wiser by fear of punishment to deter the potential criminal than by exterminating the race or family to which he belonged, and the punishments determined upon were such as to leave no room for doubt as to their being fearsome. From that it was an easy stage to the opinion that the punishment, while primarily a deterrent, should also have some effect in reforming the criminal so that he would not fall again. Subsequently came the Italian School, with the rather grotesque but attractive teaching that the poor goats could not of themselves help being goats, and it was evident from their appearance they were goats and not sheep. That, indeed, proclivity to certain crimes could be detected in the physiognomy of the criminal, in the shape of the skull, the thickness of the hair, the size, shape and position of the ears, number of teeth, and so forth. Their habits also disclosed their criminal propensity, and that they were in fact degenerates, and should by education and treatment be reformed. It is not recorded that as a result of the education or removal of motive or temptation or opportunity, when any successful reformation was attained, the physiognomy of the individual was effected so that the shape of the skull altered, the hair grew or ceased to grow or the ears changed in shape, but that did not disprove the theory. As a result probably of the extravagance of the last-mentioned theory, the next line of argument veered round to the extreme opposite—that crime was to no extent due to inherent quality, but solely to environment, such as faulty or deficient education, dissolute parentage and squalid surroundings; and that with good drainage, education authorities, proper housing schemes and prohibition of the liquor traffic, crime would disappear. It seems to have been overlooked

that crime does occur in the highest circles and among the most erudite, though possibly, owing to motive and temptation being less insistent, the inherent quality is less frequently *invoked*. Then comes the theory that all criminals are insane—insane because they are criminals, and criminal because insane, which cannot be accepted as useful or practical in the result to which it leads. This is followed by a theory which seems to be based upon Mendelism—that a certain definite fixed proportion of the population are criminal, which was arrived at after a most painstaking examination of statistics, and we all know the value of statistics. And now we arrive at the latest doctrine propounded by the learned and logical Dr. Mercier, that the “criminal act is due to temptation or opportunity as the environmental factor acting upon predisposition.” It seems a mistake to exclude motive as one of the external factors, because, while some crime may appear to be without motive, it is by no means usually so.

The general criminal is a *rara avis*. For the most part criminals specialise in some particular class of crime in which they become more or less adepts, and are known for their style and capability of execution. In this they are no doubt guided by training and upbringing, *e.g.*, mechanics to burglary, solicitors, financiers and such-like to fraud, artists to counterfeiting, fishermen to smuggling and wrecking; and having adopted a speciality, they seldom if ever depart from it. It must have occurred to many of them as well as to onlookers that the same amount of thought and energy applied to an honest calling would command more fruitful results. An inordinate selfishness of character, devoid of any higher ideal than immediate personal gratification, and the want of sufficient self-control, are probably the most prevalent causes of a career of crime. A distinguished student of humanity tells us that “there is no character which has not some redeeming points; pure unmixed wickedness is the creation of romance, but never yet appeared in real life,” and he very closely examined an extensive period of real life. He gives as an example the unlikely case of Burke, who was tried in 1828 for three cold-blooded murders perpetrated under repulsive circumstances, and who no sooner heard the verdict of the jury which found him guilty and acquitted his associate, a young woman who was tried along with him, than he threw his arms around her neck and kissed her, saying, “Thank God, Mary, you are saved.” The writer whom I quote, and who conducted the prosecution on the part of the Crown, records his wondering at the time “how many of his judges, jury or accusers in similar circumstances would have done the same.”

Discovery of crime and detection of the criminal.—In the prevention of crime a most important consideration is that it should be rendered an unprofitable pursuit, and this can best be accomplished by making the discovery of crime swift and the detection and conviction of

the criminal sure. No one will commit a crime for gain in face of the practical certainty of being immediately discovered and losing the advantage which the crime was intended to confer. Misdirected energy will not go so far as this, with the attendant disadvantages. When Solon was asked which was the best policed city he replied, "The city where all the citizens, whether they have suffered injury or not, equally pursue and punish injustice." This is perhaps rather far-fetched, but certainly all citizens in this country might contribute towards the result to a greater extent than they do. Very few will submit themselves to the inconvenience of informing except under the influence of excitement, and in view of the appalling conditions to which they are subjected in the average police-court they are scarcely to be blamed. They might, however, bear the irritation of an effective registration system, to which they would very soon become accustomed, as a necessary evil for their protection. It is disconcerting to find that in only about 15 *per cent.* of indictable offences reported are convictions obtained, and, if this is correct, it leads one to suppose that the proportion of convictions to crimes committed is very small indeed. Such a state of affairs almost amounts to an incentive to crime. It has been shown that all are potential criminals, and that previous conduct gives an indication of the probability of lapsing into crime, also that criminals specialise in particular classes of crime which they carry out with very pronounced individual characteristics. As a matter of fact, experienced detectives recognise the craftsman by his method of procedure, pretty much in the same way as a writer is known by his style of writing or a tradesman by the character of his work. Accordingly, with the help of a complete and satisfactory register kept reasonably up to date, with a proper record of crimes and a skilful classification of known criminals in frequent circulation, detectives should be able to drop on the individual wanted with incredible promptitude and certainty. I do not know how far such a system may be already in operation, but it is certainly not in full and complete operation. I know that it has been successfully tried to a limited extent in England, and the identifying marks are class-word, entry, means, object, time, style, tale, pal, transport, trade mark.

The assize.—The trial is perhaps the most important link in the whole chain of the penal system, and at the present day it may be said to be the weakest. As an amateur judge of some years' standing, I hope I may be free of envy or disloyalty when I say that such judges as honorary sheriffs, justices of the peace, baillies, etc., should be entirely swept away; but I would bring them back in another form. There is no sound reason why minor crime should be dealt with more loosely than major crime, but rather as the minor offence is generally the first step in that loss of self-control and giving way to inherent criminality which leads to the establishment of an apprenticeship, culminating in

some speciality of crime, it is all the more important that minor crime should be tried with the greatest possible care and by a thoroughly competent judge. For this reason I think there should be constituted a sufficient number of stipendiary magistrates, but not necessarily drawn from the Faculty of Advocates. Also, with a view to avoiding that fruitful source of the creation of criminals, *viz.*, the wrongful conviction, should there not be a public defender as well as a public prosecutor?—a lawyer of equal standing and experience as the public prosecutor, who by constant application to one special subject would become expert therein. The accused would then have the best available line of defence adopted for him, and incidentally the time of the Court and the public purse would be saved. It is not suggested that an accused should not be permitted to engage his own pleader to supersede or assist and superintend the public defender any less than an accuser has power to prosecute on his own account, but that a public defender selected for his ability should be available, and in practice it would become as rare for the accused to defend by private agent as it is for the accuser so to prosecute. A common experience in trials which has struck me as peculiarly inept is the way in which the judge who is a lawyer is called upon to decide technical questions altogether outwith the scope of the law. It may be said that he has the advantage of expert advice given in evidence, but he has often to decide between the conflicting evidence of experts on a subject of which he can have very little knowledge, and if the evidence does not conflict there seems to be no reason why he should hear it at all. Take, for instance, the very ordinary plea of insanity. This is a purely medical question, and should be decided by doctors. It has been laid down that a man of forty years is either a doctor or a fool. All our learned judges are over forty, and none of them is a fool therefore each is a doctor. But this is not quite good enough to depend upon in a crisis. The procedure, as is well known, varies according to the degree of insanity, the gravity of the crime, and whether the defender or the inspector of poor is prepared to incur expense, also whether the panel is not called upon to plead, or the case goes to a jury to decide as to the panel's sanity at the time of the trial or at the time of committing the crime, all at the discretion of the prosecutor. There seems to be no good reason for this variety in procedure. The question before the House is that the prisoner is insane. This should be determined by medical experts, and the prosecutor should have no discretion in the matter. The present procedure very often puts the cart before the horse, causes a great deal of useless expense, and sometimes inflicts much avoidable cruelty. A client of mine in good circumstances, a retired naval officer of eccentric habits, after a protracted and painful illness brought on by financial worry got up from bed and shot his wife. The gun was then taken from him, but

he intimated that it had been his intention to shoot his son and the dog and cat before shooting himself, and possibly the hens if the ammunition lasted, but he was not sure about them. He was dragged from his sick bed and placed in a police cell. The following day he emitted no declaration, was examined and certified insane by the police doctor and a mental expert on removal to the prison at Ayr. He was there detained for four months until removed in sight of the public from Ayr to Duke Street Prison for trial in Glasgow, and suffered what to him was the greatest indignity, removal in Black Maria, "herded with common criminals," from Duke Street to the Justiciary Court for trial. The plea in bar was accepted on the evidence of the two doctors mentioned, being the only doctors who had examined him, and the usual order was issued. I immediately made application to the Secretary for Scotland, with the necessary guarantees, that he might be removed to an ordinary asylum, and asked that he be retained at Duke Street while the petition was being dealt with to avoid the removal to Perth. The answer received was that the Secretary for Scotland did not consider a prison a suitable place to retain a lunatic. I agree, but remark that he had already been four months in prison after being certified. He suffered a short sojourn at Perth before removal to an ordinary asylum, where he died. Is this not a shameful instance of unnecessary expense and trouble? Another client of mine, who was a known epileptic from his youth up, under stress of motive, opportunity and temptation became a poisoner. The crime was cunningly devised, and the extremely able counsel retained for his defence determined not to plead insanity, as he hoped to get him off. The case went to trial, but fortunately no doubt for friends and relatives, the jury, on the instructions of the judge, found him insane, and he also died in the asylum after a visit to Perth. Surely this was a medical question, and not one for council, judge or jury. Consider the danger involved had the jury not so decided. Lastly, in a recent case a man was tried for murder, with all the pomp and circumstance, not to say expense, of a Circuit Court. No plea in bar was tendered, and the medical evidence was as to the effect of alcohol on the actions of a man who had suffered from malaria. He was convicted and sentenced to death, with a recommendation to mercy, and a petition for reprieve was lodged. Then, and not till then, was the man medically examined by mental experts. A retired Commissioner in Lunacy, sent up from England, along with a junior Scottish Commissioner, examined the convict, and on their report the man was reprieved. And this after all the expense and trouble of a Circuit Court.

My suggestion is that no technical question such as insanity should be decided by a judge or jury, but should be referred to expert arbitration, with a technical expert as referee in the event of disagreement.

Thereafter, if the report of the referee, whenever such a reference is necessary, does not bar the trial, the questions of fact and law should be tried by a judge to decide whether the indictment is proved against the panel. Further, that no one man should have power to inflict punishment upon another, and if the judge determines that the panel is guilty, a jury or committee of responsible citizens of good *moyen* and estate should, after hearing parties, and on the facts found proved by the judge, determine the punishment according to the extent of turpitude, taking into consideration motive, temptation and opportunity, as well as any other circumstances that weigh with them.

Treatment of convicts.—We have seen that crime is largely misdirected energy due to an external influence acting upon an inherent capability, and that the treatment or punishment for this crime should be curative, as well as being designed for the protection of the community from crime and the prevention of crime.

Let us therefore abolish the existing punishment of penal servitude and imprisonment as barbarous, and only tending to harden the criminal instinct among those who survive, as useless for the purpose for which it is intended, wasteful in expenditure and hopelessly inappropriate. Let us rather guide and make use of the energy that is misdirected in crime by first restoring the damage it has done, and thereafter allowing the criminal, under proper supervision and control, to make good for himself as well as for others.

The jury or committee for the punishment of criminals, in view of the considerations above mentioned, would, in the first place, assess the damage caused by the crime for which the criminal should become responsible, allowing him a living income from his earnings; then, according to circumstances, they would award a varying period of police supervision and degree of frequency of report. With a proper registry system there should be little difficulty about obtaining employment and encouragement to lead a normal life in suitable surroundings to the benefit of the State, and so save the convict from "a most dangerous downfall, whereby the devil doth thrust them either into desperation or into wretchedness of most unclean living, no less perilous than desperation."

I can hear doubters suggesting the difficulty of engaging a murderer as process clerk, a fraudulent cashier or a burglar as conveyancing clerk. But how much do you know of the inner life of your clerical staff, their inherent disposition, their motives, ambitions, temptations and opportunities? Remember that, as all criminals would be medically examined, those having no power of control would be eliminated. There would, of course, be lapses, and these would be punished by closer supervision and more frequent report. If the lapses became so frequent as to point to total incorrigibility, his employment in useful

work would become impossible, and then the criminal must be cut off, washed out entirely, and no time wasted upon ineffective imprisonment. He is better dead, for himself and for others.

I feel that such a system requires much more development and elaboration before it can be made quite clear and intelligible, but it is the fashion of the day to evolve schemes for renewing the earth without clearly and explicitly stating how they are to be carried into effect. If I adopt the fashion, it is not because I have failed to work out or study the details, but because it would be monstrous to further encroach upon your indulgence.

CONCLUSIONS.

(1) That a general register of the people be compiled and kept up to date, together with a special register and classification of criminals to be circulated among police forces.

(2) That a public defender be attached to every criminal court as well as a public prosecutor.

(3) That stipendiary magistrates be appointed in substitution of all honorary judges.

(4) That medical referees be attached to all criminal courts to examine and report upon all criminals when necessary, anterior and as a preliminary to the trial on fact and law. This might be extended to all technical questions that might arise, *e.g.*, engineering, shipping, mining, finance and others.

(5) That the decision of the judge be confined to the elucidation of evidence and findings in fact and law to determine the guilt of the panel as charged.

(6) That a jury or committee be appointed to assess the damage and determine as to the treatment of the convict.

(7) That the existing punishments of penal servitude and imprisonment be abolished, and a carefully-thought-out scheme be instituted to enable the convict in the first instance by the fruit of his work to restore the damage done by his crime, after maintaining himself, with a view to his eventual restitution to all civil rights and liberty.

(8) That those criminals who prove incorrigible be destroyed.

(¹) Paper read to the 35th Annual Meeting of the Incorporated Society of Law Agents in Scotland, October 23rd, 1919.

Occasional Notes.

Progress of Psychiatry in England.

AFTER reading the remarks of the *Lancet* for March 6th, 1920, under the heading, "The Reproach of Psychiatry in England," it is with some diffidence that one speaks of "progress of psychiatry in England." Yet progress there has been, sporadic and intermittent it is true, but nevertheless progress. "Backwardness" as regards psychiatry is rather relative than absolute, and is not applicable to the whole subject, but limited to scientific teaching and organised research. There are few or no indications in those countries which are reputed to be "forward" in this branch of medicine of more success in treatment, especially in the permanent cure of either early or established cases, while no country surpasses this as regards the care and accommodation of those mentally afflicted. The general view of English psychiatry—and one not without some foundation—is that much of the progress of psychiatry so well boomed as occurring abroad and not at home ends very largely in paper, verbosity, and high-sounding terminology, and the attitude taken up is in large measure that of the critic and sceptic.

It must be admitted, however, that, after all has been said, the remarks of the *Lancet*, as far as they go, do not incorrectly describe the situation, and we are bound to admit that a reproach exists. Happily there are at present signs and symptoms of a great awakening in this country to the needs of psychiatry, and let us hope that, though delayed, the progress foreshadowed will be solid and durable and attain the objects in view, *i.e.*, the definite entry of the treatment of mental diseases and the cure of insanity into the current practice of medicine. Too long have the insane been considered a class of people needing mainly separate care and special segregation, who only resume their full citizenship on recovery. No doubt such has been necessary in the past, and perhaps the only way, and the benefits that have come to them thereby are undeniable. Daylight now enters freely the institutions for the insane, humane treatment is uppermost and they are administratively admirable. Progress in this direction would appear now to have reached its limit in this country, and the high degree of efficiency attained is not a reproach, but the opposite, and we can afford to some extent to rest on our laurels in this respect.

The time has come to turn our efforts rather to the removal as far as practicable of the insane from their traditional sectional treatment, considering them merely as patients suffering temporarily or permanently from one of the ordinary current diseases and disorders. Along these lines must future progress be made. To further this the mental hospitals need to be linked up with the hospital system generally, and psychiatry more closely interwoven with ordinary medical and hospital practice.

The first step in this direction was the creation of the trained mental hospital nurse, and the second the establishment of psychiatric training for doctors and diplomas in psychological medicine. The war has retarded matters somewhat, but this has not been without its advantages, since methods of care and treatment have been rendered possible which undoubtedly will make their influence felt in the future.

At the last quarterly meeting of our Association, reported in this Journal, reference was made to the pioneer work of the special committee which came into being as the outcome of a communication by Colonel D. Thomson on post-graduate teaching and training in psychiatry in 1908. The result was the establishment of diplomas in psychiatry and psychological medicine by the Universities. It was decided that the time has come now for further progress in this direction, and a committee was instituted, having for its reference—"To consider the best method and facilities for training in psychiatry and for obtaining the diplomas which exist."

In a recent paper read before the Association, Dr. C. Hubert Bond advocated the establishment of mental clinics at the general hospitals, and closer relationships between the mental hospitals and the general hospitals as regards teaching, research and treatment. This paper by Dr. Bond was a well-timed stimulus to action, and the Association would be betraying its trust if it did not take energetic steps to further the proposals made. It has definitely done so by the appointment of this special committee, for both these matters are indissolubly bound together.

Too long has psychiatry been in a great measure isolated from general medicine and left to struggle alone. The cure of mental diseases is in actuality the most difficult problem which for ages past has faced the medical profession, and a problem which calls for the application of the acutest intellects in our ranks for its solution. Not that psychiatry has not now, as in the past, illustrious men entirely devoted to it, but its very complexity demands the greatest efforts possible of the profession. Until a person who has become afflicted in mind has a reasonable prospect of a speedy and permanent cure the public will be dissatisfied and a reproach will remain.

We work under many difficulties and disadvantages which must be capable of some solution. The great drawback has been the difficulty in obtaining a steady flow of the best men from the hospitals to the asylums and the practice of psychiatry in general. The heads of the profession have not always been with us, and have been often even against us. Administrative and clerical work, very ordinary medical work with little or no surgery, and general professional stagnation have been the gravamen urged, and this is the real sting of the reproach. How far it is true or otherwise the members of the Association know, but it

should be remembered that medical administration, under the enlightened control of the many lay committees, has in any case raised the mental institutions to their present high level of efficiency.

Medical administration has been necessary in the past, and always will be. The trouble is that administrative duties and responsibilities increase as juniors become seniors and seniors become medical superintendents, with the result that as medical experience increases in value to the patients, the opportunities for concentration on purely medical work decreases, until, in the case of the medical superintendents, it is often almost entirely crowded out by administrative duties. Progress in the treatment of mental diseases necessarily suffers, and will do so so long as matters remain as at present.

Some reconstruction and rearrangement of the medical and administrative work in the mental hospitals would appear to be imperative if the full benefits of the psychiatry and research work of the future are to accrue to the patients. It is neither possible, nor is it the place, in a short "occasional" to deal adequately with the matter; but there appear to be three fundamental principles which, we venture to suggest, should guide the Association when the time comes to formulate its views:

(1) The responsibility for the management of the mental institutions is a matter for local authorities and committees and their medical and other advisers.

(2) The care, custody and cure of mental patients is a national and not a local responsibility, and should be in the hands of a medical service subject to Parliamentary and not local control.

(3) The duties and responsibilities of local authorities and the medical profession should be allocated in accordance with (1) and (2) in order to secure the carrying out of (2).

In conclusion we desire to offer our congratulations to the London County Council and Sir Frederick Mott on the completion of the scheme for the giving of lectures and practical instruction in psychiatry, rendered possible by the enlightened views and generosity of the late Dr. Henry Maudsley, who, it is regretted, did not live to see either the Maudsley Hospital completed or be present at the opening of the first session of London's great school of psychiatry. Sir Frederick Mott's words, written in the *Archives of Neurology* for 1907 and quoted by the *Lancet* (see p. 558), are bearing good fruit, and generations of students to come will have good reason to be grateful to him for the prominent part he has taken in the genesis of the Maudsley Hospital.

Studies in Mental Inefficiency.

We have received the first number of this new publication, which is issued by the Central Association for the Care of the Mentally Defective.

This Association has already done work of considerable social value, and this publication should not only serve to give greater publicity to its aims, but it should become an educational medium of great usefulness to the increasing number of the public who are concerned directly or indirectly with the problem of mental deficiency. The journal should supply an obvious need. Hardly sufficient interest is shown by the public in the sociological problems included under the wide term "mental inefficiency"—the criminal, the mentally deficient and the insane—and this publication may do much to stimulate interest in these directions. It is starting in a modest way and we wish it every success, and we may perhaps express the hope that it may so receive the support of the medical profession by contributions of interest and value, and that of the public by subscribing to it, that it may eventually attain the importance and dimensions as have journals with similar aims in other countries. The opening number has the advantage of a sympathetic foreword by Dr. Shuttleworth, who has done so much for the mental defective, and it includes interesting papers by Dr. Tredgold and Miss Fildes.

Part II.—Reviews.

The Autonomic Functions and the Personality. By Dr. EDWARD J. KEMPF. Nervous and Mental Disease Monograph Series, No. 28. New York and Washington, 1918. Royal 8vo. Pp. 156. Three Illustrations. Price \$2.

Most of the readers of this journal will recollect how scanty was the attention paid in their student days to the study of the sympathetic nervous system. It was deemed to be of little account except in so far as it influenced the action of the heart and the processes of digestion. Compare with this neglect the amount of instruction given in the anatomy and physiology of the cerebro-spinal system. And this state of the case in the medical schools was but a reflection of the literature of the day.

Times have changed, and there now appear in bewildering succession books and articles on what some call the vegetative, others (including the present author) the autonomic system. The book under consideration deals, then, with the autonomic or sympathetic system, and it is written to show the enormous effect this system has upon the behaviour and personality of man. It is divided into four parts. Part I is mainly anatomical; Part II, physiological; Part III deals with the psychology of the matter, and Part IV is a brief recapitulation.

Whatever may be the exact views held as to the relationship between mind and matter most of us cling to the general idea that the seat of the mind is the brain. The theories of our predecessors that the

heart, the liver, and other viscera had to do with the emotions are regarded with an indulgent smile as belonging to antiquated thought. It is a considerable shock therefore to be told in a modern book that ours is an "old notion"; that the sole reason for the idea of the mind being situated in the brain is the fact that the eyes and ears are set in the head. So says the author of this book. But the mind, where is it? He replies: "In the autonomous system." The autonomous system is the lord, the cerebro-spinal, the humble servant who merely obeys his master's bidding.

Professor James had partly prepared us for this revolution by his theory of the origin of emotions, but Dr. Kempf goes further, and in his opinion not only emotions but desires and thought are due to changes in the sympathetic nervous system.

There is naturally a considerable amount of resistance to be overcome before such teaching can be seriously entertained, but Dr. Kempf argues his point of view with considerable courage and erudition. His book is worth reading for the manner in which he has collected and collated the experimental work of Sherrington, Cannon, Crile and a large number of other writers. As regards his psychological outlook he is an ardent follower of the teaching of Freud, and from another point of view this book may be regarded as an attempt to show the physiological mechanisms underlying the psychological phenomena known as repression, wish-fulfilment and the like.

It will be realised that adequate discussion of the problems mentioned are impossible on the present occasion. With regard to minor criticism it must be stated that in parts of the book the arguments would have appeared more convincing had they been better arranged. There is evidence of haste in writing, and some revision and reconstruction will be beneficial in a second edition. To give one example: "Another confusing practice of some psychologists, that has been the cause of considerable confusion, is the tendency to consider that an emotion either exists or does not exist, and that it exists in the personality by itself as a free agent that may attach or detach itself to objects, people, ideas, etc."

This is one of several passages marked as difficult to comprehend. These, however, are small faults which can easily be corrected, and on the whole Dr. Kempf is to be congratulated on his efforts to throw an entirely new light on the workings of the mind and the personality of man.

R. H. STEEN.

Sexualpathologie: Ein Lehrbuch für Ärzte und Studierende. By Dr. MAGNUS HIRSCHFELD. Bonn: Marcus & Weber, 1917-18. Parts I and II, pp. 211 and 279. 8vo. Price m. 40.

It is thirty years and more since Krafft-Ebing published the first edition of his clinical and forensic study, *Psychopathia Sexualis*, and although that work still continues to appear in ever-enlarged and modified editions, it no longer corresponds to the present outlook of scientific investigation. Dr. Hirschfeld, of Berlin, who possesses an unequalled knowledge of the pathological side of sex, acquired during

twenty years of special practice in this field, has therefore here made an attempt to supplant Krafft-Ebing's book as a manual for practitioners. Two parts have already appeared.

The author has discarded Krafft-Ebing's title. Sexual pathology is no longer concerned only with psychic facts; we have learnt how intimately in this field the psychic depends on the physical, and Steinach has shown how by simple transplantation of sexual tissue it is possible to masculinise, to feminise, or to hermaphroditise an organism. It is, above all, the new doctrine and the new knowledge of the internal secretions which has revolutionised sexual pathology. Hirschfeld remarks in the preface that the endocrinic doctrine is the *Leitmotiv* of his whole book, to be heard in every chapter. But he adds that the book is purely clinical, proceeding from a consulting room and not from a study; every case brought forward is from his own practice, and some of them have been under observation for ten, fifteen, or even more years. This personal character of the work has its disadvantages when it is a question of a text-book for general use, for Dr. Hirschfeld is sometimes negligent and even inaccurate in his references to the work of other investigators, even when they bear most clearly on his own work, but the positive value of the treatise remains little impaired.

The absence of the sexual glands and the results of their removal are first dealt with, including eunuchoidism (or testicular hypoplasia), and the various aspects of the subject of castration in males and females, including the accidental castration (for the author finds no evidence of intentional mutilation) occurring during the war. The next chapter deals with infantilism, in what the author regards as its four fundamental forms—genital, somatic, psychic, and psycho-sexual; incidentally cryptorchidism and dwarfism are discussed, as well as the various aspects of *pædophilia erotica*, in connection with which Hirschfeld states (contrary to the opinion formerly expressed by others) that he has never known an outrage on a child to be committed by a subject who was not found on careful examination to be seriously defective mentally. A varied and interesting chapter on precocity, considered in the same four forms, is followed by a chapter on sexual crises. This is a comprehensive discussion of the various psychic and nervous disturbances associated with puberty, menstruation, pregnancy, and the climacteric. The first volume concludes with instructive chapters on masturbation, for which Hirschfeld (following Kurkiewicz of Cracow) prefers the word "ipsation," while (following Rohleder) he uses the term "ante-monosexualism" for that variety in which the subject feels a psychic attraction to his own body; there seems, however, no good reason for abandoning the term "narcissism," usually given to this variety. Hirschfeld presents a curve, based on over 500 cases, showing that twelve to fourteen is the most usual age (44 *per cent.*) for beginning masturbation, and he considers that its prevalence in the two sexes is about equal, though it tends to begin much later in women than in the other sex. There is no reliable indication of masturbation and no specific disorder connected with the practice. On these points he confirms other recent investigations.

The second volume deals with those various intermediate sexual stages, somatic and psychic, concerning which Hirschfeld is already a

recognised authority and the author of several extensive monographs. In these condensed chapters, richly stored with facts, he summarises his earlier work and brings it up to date. The subject as a whole he entitles "hermaphroditism," that is to say, the mixture of the opposed sexual characters, or, as Orth put it, "the confusion of sexual characters." Hirschfeld recognises four groups of hermaphroditism and devotes one or two chapters to each: (1) Genital hermaphroditism, until recent times the only form recognised; (2) androgynia, or the general physical mixture of sexual characters; (3) psychic hermaphroditism, or the mixture of psychic sexual characters, by Hirschfeld named "transvestism," which seems too narrow a name, so that the present reviewer has proposed the term "eonism," after the Chevalier d'Eon, the most famous representative of the type; and (4) psychosexual hermaphroditism, that is to say, homosexuality or sexual inversion, together with what Hirschfeld terms "metatropism," by which he means an inversion of the ordinary tropisms of the sexes, the man passive instead of active, and the woman active instead of passive. This last division is new, and is based on the conception of Krafft-Ebing that in men there is a normal tendency which has its extreme pathological form in sadism, and in women a normal tendency with an extreme pathological form in masochism. It is not probable that this conception, in the formal and precise shape into which Hirschfeld puts it, will be universally accepted. There are many female sadists and more male than female masochists. It seems quite possible to argue that the supposed general activity of the male and general passivity of the female is largely a conventional notion based on prevailing social modes, and not so deeply rooted in Nature as to be true of all forms of male and female activity. It may be roughly true of our current practical life and yet not be susceptible of conversion into a fundamental biological doctrine.

A third volume, not yet published, will complete the work. When thus completed, there can be little doubt that this text-book will prove of much practical value, alike from the psychiatric and the forensic standpoints. It should be added that the numerous illustrations are of high quality and much interest.

HAVELOCK ELLIS.

Dreams and Primitive Culture. By W. H. R. RIVERS, M.A., M.D., F.R.S. Reprinted from *The Bulletin of the John Ryland's Library*. Longmans, Green & Co. Demy 8vo, pp. 28. Price 1s.

It must be admitted by even the bitterest opponent of Freud's theories and writings that they have stimulated research in other matters which at first sight would appear to have little in common with them. Thus, for example, there are books upon "dreams and myths" and "wish-fulfilment and fairy tales." The subject of the present review is a lecture which was delivered at the John Ryland's Library on April 10th, 1918, and it deals with the resemblances which are to be found between dreams and the customs of savage peoples. Much of the material has been obtained from study of the Melanesian or Papuan cultures, and the greater part from the

social life of the inhabitants of one tiny island only two miles in diameter—"Mota of the Banks group." The lecturer deals with his subject in the same manner as Freud describes the dream-work. He takes up one by one the questions of distortion (here called "transformation"), dramatisation, symbolisation, condensation, displacement, and secondary elaboration. He then goes on to consider the censor, wish-fulfilment, rôle of sex, and finally the unconscious. Explanations are made of the meanings of these terms, and illustrations of similar processes are given as they occur in the primitive races.

For example: "A native of Mota in the Banks Islands, who is marking out a plot of ground which is to be the property of an unborn child, carries a dried cocoanut under his left arm or on his left shoulder as a symbol of his purpose." On inquiry it will be found that the man attaches great importance to this simple object, and regards its use as essential to the proper performance of the work upon which he is engaged. How foolish and absurd this custom seems to be, and just as ridiculous as the manifest content of many a dream! Yet when the matter is investigated scientifically it will be found that the cocoanut represents the human head, and interwoven with this idea are various beliefs regarding the soul, the danger and sanctity of the head, etc. To use the terminology of dream-study, the manifest content of the custom appears foolish while the latent content is full of meaning.

Dr. Rivers acknowledges his adherence to the dream-psychology of Freud. It is not to be understood that he follows the latter's teaching implicitly in all points, but in the main, and especially with regard to the psychological mechanisms involved in the production of the dream, he asserts his belief in the correctness of Freud's work. He is further of opinion that his studies in anthropology offer one more proof of this. It is unfortunate that so much learning and research had to be compressed within the narrow limits of a lecture. So highly condensed has the material been that it has been impossible to epitomise it in any way with justice to the author. It is earnestly to be hoped that Dr. Rivers on some future occasion will expand these few pages into a book and so reach a wider circle.

R. H. STEEN.

Studies in Word-association: Experiments in the Diagnosis of Psychopathological Conditions carried out at the Psychiatric Clinic of the University of Zurich. Under the direction of C. G. JUNG, M.D., LL.D. Authorised Translation by Dr. M. D. EDER. London: William Heinemann. Pp. 575, demy 8vo. Price 25s.

In the earlier work in psycho-analysis use was made of two methods—"free association," in which the subject tells all the thoughts which come into his mind, avoiding criticism as far as possible; and the interpretation of dreams. It was soon found, however, that in some patients the associations came to an abrupt stop and that no dreams were forthcoming. Dr. Jung suggested the use of the word-association test, and this has been generally adopted as a third means of obtaining an insight into the mental state. He and his fellow-workers published numerous papers on this subject which are scattered through

periodicals in the German language, and we are indebted to Dr. Eder for translating these and collecting them under the covers of one volume.

It is, of course, most essential before discussing the use of any method in abnormal people to have a clear understanding of how it behaves in the case of the healthy. It is therefore not surprising to find that more than one-fourth of the book deals with the associations of normal subjects. A comprehensive table is given of Jung's classification of reactions and the percentages of these met with in different types of humanity with and without distraction.

Among the conclusions reached after experiments on normal subjects are the following: (a) That reduction of attention through any kind of inner or outer impulses makes the reaction type a more superficial one—that is to say, the inner or higher associations recede in favour of outer associations and clang reactions. (b) Indirect associations are increased when there is distraction of the attention. (c) The educated have on the average a more superficial type than the uneducated. (d) As to the degree of the dissociation of the attention caused by distraction, there are no essential differences between the educated and the uneducated.

Jung then proceeds to describe two types of mankind revealed by the experiment—the objective and the egocentric. This work probably laid the foundation for his ideas on the extroverted and introverted varieties which are discussed in a later paper (“Analytical Psychology,” C. G. Jung, translated by Constance Long, Chapter XI).

After the very elaborate discussions of the normal psychology there are chapters on the use of the test in imbeciles, epileptics, cases of hysteria and in families.

Scattered through the book are references to complex-indicators and a short chapter summarising these would be welcome. For the benefit of our readers they may be given as follows: (1) Increase in the time taken to give a reaction. This is one of the most important signs and is dealt with in detail in Chapter V. Sometimes the patient is unable to give any response to the stimulus word within a reasonable time, say half a minute. (2) The nature of the reaction. This may be superficial or even an apparently senseless one. The subject may not hear the stimulus word aright, which will have to be repeated, or he may himself repeat the stimulus word. At times the word given as the reaction is used several times. This word may be given in a foreign tongue and in an energetic manner. Frequently after a long reaction time the immediately subsequent reactions are upset through perseveration. The whole behaviour of the patient must be watched and noted. A foolish laugh or emotional disturbance may occur during the test without any apparent reason. (3) On the completion of the test the subject is asked to repeat his reactions and failure to do so is of significance. This is dealt with in Chapter X.

Taking the book as a whole there is a sense of inequality in the material provided, and it is suggested that several chapters might well be dispensed with in a later edition without diminishing its value. These remarks do not refer to those written by Dr. Jung, which are always interesting and suggestive. It is certainly most instructive to

have complete examples such as are given in Chapters VII and IX of the use of the method by the designer of the same.

Even apart from psycho-analysis there can be no doubt that the word-association test will occupy a more prominent place in the future than it has done in the past. There are many possibilities of its value in diagnosis and prognosis. This book will be indispensable to anyone who wishes to make use of the method and should be in the library of every mental hospital.

Considering the fact that the subject-matter deals with words Dr. Eder had no easy task. He has used his discretion to introduce more suitable English words when the literal translations of the original words would have conveyed no meaning. He is to be congratulated on the excellence of his work. A comprehensive bibliography is appended and adds considerably to the value of the book. R. H. STEEN.

The Dawn of Mind. By MARGARET DRUMMOND, M.A. London: Edward Arnold, 1918. 16 mo, pp. 179.

If the perusal of this book will make the average mother take an intelligent interest in the growth of her child's mind it will serve a useful purpose. Anybody who tries to find out why and how babies do things is apt to be regarded as an unfeeling wretch since his endeavours tend to correct the delusions which women cherish about their offspring. As a consequence an important psychological field is left almost untilled. The author of *The Dawn of Mind*, perhaps because the children she describes are not her own, achieves a considerable measure of detachment. Misgivings may arise as to her method if the reader, on taking up the volume, should happen to open it at p. 25 and read that "Baby, like the wise little person he is," does something or other, and the frontispiece may strike him as futile, but these minor blemishes convey quite a wrong impression of the book, which is really full of sound sense and entitled to respectful consideration.

In a preliminary chapter some particulars of the nervous system and its functions are given. The information is, no doubt, full enough and accurate enough for its purpose, though it implies a simplicity about the nervous organisation of the human body which is rather misleading. The "reflex wink" does not seem to be a particularly happy example of activity confined to "the lowest level of neurones." It supports, rather, the view that reflexes are produced from volitional activities by a process of degeneration. Speaking of the earliest stages of reasoning, the author says—"at first we notice likenesses rather than differences." The accuracy of this statement is open to question. The "likenesses" which appeal to the infant mind are probably "likeablenesses" rather than the resemblances which exist for the adult. In testing the intelligence of children it is found that the age at which they recognise the differences between related articles, *e.g.*, fly and butterfly, is several years below that at which features of similarity are described. Speech is treated of as wholly acquired, though it is noted that a child who presents defects in his later speech "may have made the required sounds quite correctly in his baby prattle." This fact, which has been

recorded by other observers also, suggests that the first attempts at speech represent an inheritance rather than an acquirement.

To the general teaching of the book only praise can be given. There is, possibly, a certain quaintness about the proposition that a baby may be too old at five, but the point made is a good one. In regard to the education of children we are still far from the happy mean, and the influence of fashion on methods of teaching is not helpful. It is certainly much better to let one's pig trot to market rather than to have to haul him there by the hind leg, but he must be supervised sufficiently closely to prevent his bolting down the side streets, and the complacent parent who justifies his neglect by the fatuous excuse that "you can't put old heads on young shoulders," is just as dangerous to a child's mental development as ever was the bigoted pedagogue of the past.

E. B. S.

Part III.—Epitome of Current Literature.

1. Psycho-pathology.

The Psychology of the Normal Woman in Relation to her Crimes and Passions: Her Peculiar Psychoses [*La Psicologia della Donna Normale in relazione ai suoi Delitti e alle Passioni: Psicosi sue peculiari*]. (*Arch. di Antropol. Crim. Psych. e Med. Leg.*, Sept.-Dec., 1917.) Lombroso, G.

It has been frequently observed that crimes committed by women are usually of comparatively small importance, and that murder is rarely committed by them. On the other hand, they have been known to have become suddenly insane or to have committed atrocious crimes from causes which were strangely disproportionate to the results. The writer attributes these particular forms of criminality and insanity to woman's special emotionalism (*passionalità*), and the illogicality, exaggeration, easy vivification of inanimate objects, ideas of the importance of dress, and enormous *amour propre* which are derived from it.

Feminine emotionalism is distinguished from the masculine by the fact that it always has for an object a living, concrete being—a father, husband, lover, child, or even a dog or a cat. A woman is miserable unless she has something to which she can dedicate herself, for which she can make real sacrifices. This feminine altruism is necessary for the preservation of the species. If the female were not provided with it, the species would presently be extinguished. This ardent passion for every living thing, which potential maternity develops in a woman, is the primary cause of her minor criminality. She receives such pleasure from the life around her that she has a profound repugnance to destroy it.

One of the primary consequences, if not the cause, of the special emotionalism of woman is her lack of logic. A woman is devoted to others from instinct and impulse, not from reflection. This want of

logic explains how crimes committed by women are often so absurd and fantastic. A female criminal only exaggerates in crime a character which is hers normally.

Another characteristic derived from the emotionalism of women, and which reveals itself perhaps more in their suicides and psychoses than in their crimes, is exaggeration. It is the cause of a woman's irritability, susceptibility and illusions. When life is tranquil a man simply enjoys it without worrying about the past or future. But a woman does not live in the present; she lives in the past or future, and is continually tormenting herself about what may or may not happen. Before a girl is married she is thinking of the evils which may befall her children. When she is married and has a perfectly healthy child, she torments herself about what would happen if he were to fall ill.

Women are endowed with an imagination which appears to have the power of transforming the inanimate objects around them into living beings, in which they confide, and which they love as real persons. Mrs. Browning, George Sand, Juliette Lambert and Laura Thompson spoke to the trees in their gardens, and in their letters they show that they believed that the trees were sensible of their affection. This power, which a woman has of vivifying the inanimate things around her and of loving them as living beings, explains the passion with which she resists those who would deprive her of them, and one understands how it may lead her to falsehood and theft to preserve them, and even cause her to murder without repugnance those who would take them away from her. This feminine love for inanimate objects led Cesare Lombroso to suggest more than once that the furniture should legally belong to the wife.

The writer says that vanity has but little to do with a woman's love of dress. According to him, dress, ornaments, jewels are for a woman the marks which demonstrate to the public, which does not know her, her social class, her riches, the affection of her husband and relatives. One observes that a middle-class woman displays all her luxury in the street or in the theatre where the public, whose judgment is important to her, looks at her and judges her; while the high-born lady dresses modestly for the street, and reserves her elegant attire for the drawing room or the dining room, where she finds the public whose approbation she desires. A jewel or a beautiful dress is to a woman what a cross is to a chevalier, or a medal to a soldier; they represent her rank. The fact that dress represents so much to a woman explains how she will often steal or commit other crimes in order to possess an ornament or a beautiful garment.

Women attach enormous importance to the judgment of others. This sentiment, improperly called *amour propre*, often induces them to risk personal injury rather than expose themselves to the disapprobation, the sarcasm or the compassion of others. This is the reason for the greater number of infanticides and of many other crimes such as the murder of a lover who abandons or betrays his sweetheart. A woman never kills the husband who betrays or abandons her, but she frequently murders the lover who does so, because the last offends her *amour propre*, and the first offends only her love.

J. BARFIELD ADAMS.

Attempted Suicide among Soldiers [Il Tentato Suicidio nei Militari].
(*Arch. di Antropol. Crim. Psich. e Med. Leg.*, Sept.-Dec., 1917.)
Lattes, L.

It has been observed that the method of suicide generally adopted by men is by fire-arms, that by hanging being the next favourite, while drowning and poison, methods usually preferred by women, are more rarely employed. The 60 cases of attempted suicide among soldiers studied by the writer gave the following results: drowning 15, poison 14, precipitation from a height 11, hanging 9, with cutting weapons 6, with fire-arms 4, suffocation 1.

It may appear strange that soldiers, who are provided with fire-arms, should so rarely make use of them. But the writer points out that a civilian usually attempts to kill himself with a revolver, while a soldier has only at his disposal a rifle, which is not altogether a convenient weapon for self-destruction, especially when it is necessary to elude the observation of numerous comrades. Further, the majority of suicides among soldiers are attempted by men who have already exhibited signs of mental disturbance, are under observation, and have been deprived of dangerous weapons. This latter reason probably accounts for the frequency of such methods as precipitation from a height and drowning, which do not require any instruments, and are easy to accomplish unexpectedly when surveillance has been eluded.

The large percentage of cases of drowning might give rise to the suspicion that some of these attempts were simulated suicides. Drowning is a method which permits the shamming of the intention of committing suicide with the least risk and the least pain. But the writer is of the opinion that the cases under his observation were genuine attempts.

The attempt of suicide was always the prescient manifestation of a permanent or transitory state of depression or delirium. It was attempted without motive, and was the manifestation of automatism in a state of cloudy consciousness. This was verified constantly in cases of hanging, suffocation, precipitation from a height, or the use of fire-arms—modes of self-destruction which do not give rise to the suspicion of simulation. In some cases of drowning and of poisoning there was melancholic depression with a permanent tendency to suicide.

In other cases of all methods one did not meet with permanent psychical symptoms suggesting suicide, although one could not admit mental integrity. These patients were degenerates with a bad heredity, morally insensible, inamenable to discipline, pathologically impulsive, and a prey to passionate crises. In these cases the act had not the deliberate aim of freeing the man from the weight of life. It was the result of impulse—a reaction against provocation, annoyance or fear. Often the attempt was made after a simple reprimand or punishment, or immediately after a man joined his regiment or arrived at the front. Sometimes it was because a man did not obtain a desired reward or a convalescent leave of absence. In one case the cause was a quarrel with a comrade; in two, amorous impulses (one being a case of homosexuality); in one, an unjust imputation of theft; in another a deserter attempted to commit suicide on the arrival of the *carabinieri* to arrest him.

Dr. Lattes' paper includes detailed reports of the sixty cases, which, though very condensed, are remarkably clear pictures of the mental condition of each patient. A few of the cases give rise to suspicions of simulation and malingering, but the majority were evidently genuine attempts at suicide.

J. BARFIELD ADAMS.

2. Ætiology.

Syphilis as an Ætiological Factor in Epilepsy. (*Journ. Missouri State Med. Soc.*, November, 1919.) Booth, D. S.

The author prefaces his thesis by defining epilepsy on the basis of entity, though calling attention to the fact that it is but a syndrome resulting from many and various conditions, some known and discoverable by a thorough and complete clinical and laboratory examination, others unknown and not discoverable even *post-mortem* by any means yet known—so-called idiopathic epilepsy.

The author recalls that there is a variation between different observers as to the frequency of syphilis as an ætiological factor in epilepsy, at least to the degree that it is the sole cause—which is often difficult, and at times impossible, to demonstrate. Though generally recognised that epilepsy may be caused by various tangible syphilitic demonstrations, most authors do not mention the possibility of syphilis causing a "basic impairment of the germ-plasm" without pathological findings; however, it appears evident that there must be a peculiar condition of the nervous system, inherited or acquired, that enables an irritant, whether toxic or otherwise, to produce stereotyped attacks in certain individuals and not in all having a similar exciting factor.

Most text-books merely refer to syphilis as one of the causes of epileptic attacks without any reference as to its frequency or the manner in which it acts.

Available statistics give syphilis as infrequent in epileptics—from 5 to 14 *per cent.*—while reports of most serologists give a small percentage of positive Wassermann reactions in both the blood and spinal fluid, with variable and inconstant findings in the latter as to pressure, pleocytosis and globulin content, though frequently there is a considerable deviation from the normal reaction of the Lange colloidal gold test.

If it be possible for syphilis to be present in an epileptic without giving any diagnostic evidence, it may be argued that the disease should at any rate respond to antiluetic treatment, which is untenable, since a disease or condition is not necessarily cured by treatment directed to the cause; hence the fact that symptoms, presumably due to a frank syphilis, do not recover after all clinical and serological evidence of syphilis has disappeared, does not necessarily argue against a syphilitic origin.

Another source of error arises from depending too much upon the laboratory findings and too little upon the findings of a critical clinical examination.

Though some of the author's cases of epilepsy have shown only a two-plus Wassermann and a few but a one-plus reaction, he is treating them as though specific in origin with encouraging results, though it is

too early to record conclusions. Those giving a one-plus Wassermann have been almost entirely children or women, in whom he had reason to believe that if syphilis were present at all it was hereditary.

While unprepared at this time to give data, the author states that in his experience of the past several years the proportion of epileptics giving a Wassermann reaction in some degree is much greater than that given in available statistics, and he feels confident that the laboratory has not detected all cases in which syphilis was, either directly or indirectly, an ætiological factor. AUTHOR'S ABSTRACT.

3. Clinical Psychiatry.

A Contribution to the Study of Toxicomania . . . on a Psychasthenic Foundation (Psycho-toxicomania) [Contributo allo Studio delle Tossicomanie . . . su Fondo Psicastenico (Psico-tossicomanie)]. (Reprinted from Il Manicomio, 1918.) Bianchini, L.

R. F. E—, a sub-lieutenant of infantry, was charged with cowardice for having on November 1st, 1916, at the commencement of an attack on the enemy's position, deserted his company. The regimental surgeon reported that the man was a confirmed morphia maniac, and that scars of injections were visible on his body. The commander of his battalion reported that he was intelligent, capable of service, but of a rather weak physical constitution. The captain of his company reported that he was ignorant of moral duties, had no sentiment of dignity or *amour propre*, that he was a morphia maniac, and gave one the impression that he was mad.

R. F. E— was the eldest and the least robust of a family of six, the family history being good. At school and afterwards he showed himself fairly intelligent, but his intelligence was ill-balanced and his will was weak. He was also very vain.

He commenced smoking tobacco at the age of fourteen, and he gave himself so completely up to the habit that at eighteen he was accustomed to smoke 100 cigarettes a day.

He did not choose to follow the public course of lectures, but preferred studying at home for his licentiate. He worked hard, but his labour was so vacillating and so badly directed that he failed to pass the examination. He was a great reader, but his reading was desultory. He appears to have found more pleasure in the study of chemistry than in any other branch of knowledge. The description of the effects of certain alkaloids on man and animals fascinated him. He read many books on pharmacology and toxicology. He obtained specimens of various drugs, such as chloroform, chloral, Indian hemp, opium, morphia, atropia, cocaine, etc., with which he experimented on himself. He made the first injection of cocaine in August, 1914, when he was eighteen years and six months old. It appears, therefore, that he became a toxicomaniac from curiosity. But it is to be noted that in his own confession he speaks of having been induced to smoke opium by a friend who had frequented the opium dens of Marseilles and Paris.

When the war broke out he enrolled himself in a regimental course for officer students at Turin. Here he continued the use of cocaine and morphia. Having completed the course from which he came out as sub-lieutenant in July, 1915, he was appointed instructor to a squad of officer students. Although he was saturated with poison, the sudden change in his life, pride in his appointment and consciousness of responsibility made him spontaneously and with little suffering give up the injections. He appears to have almost succeeded in breaking off the habit.

He passed in due time to the Front, fought bravely, and was wounded on September 28th, 1915. He was sent to the hospital at Pavia. Here he took up his old habits, and continued them when he was sent home on leave. He now used morphia and cocaine together. He injected the morphia first, left the needle in the skin, filled the syringe with the solution of cocaine, and completed the operation. He used large doses of both drugs. The injections were made in the afternoon, evening and night, never in the morning. No one except a doctor at Pavia, who spoke strongly to him on the subject, appears to have suspected the habit.

After his convalescent leave was ended he passed to the dépôt as instructor until the end of May. During the last month, becoming acting captain, pride again induced him to give up his vicious habit. Being sent to the Trentino, he fought bravely. For a whole month he left off the use of the alkaloids, only masticating a quantity of leaves of Bolivian coca. His regiment being sent to rest at Vicenza, he resumed his evil habits, using large quantities of morphia and cocaine.

In August his regiment was sent to the Carso. He was now beginning to show signs of mental and bodily enfeeblement. Finally he ran short of morphia, which he had been using in large doses, and when the regiment went into action on November 1st he had been forty-eight hours without an injection. He advanced bravely to the attack, but the morphia hunger overcame his physical and moral strength. He deserted his post, and after wandering aimlessly for three days he found his way, ill and broken down, to the hospital of his army corps.

Prof. Bianchini draws attention to the following points :

(1) The age of the patient is exceptional. He was *æt.* 18. It is rare to meet with a toxicomaniac under twenty-five.

(2) With classical toxicomaniacs the need of the poison, even from the beginning, is constant, continued, and progressively increasing. In this case the need was sporadic, discontinued and non-progressive. In the case of a classical toxicomaniac voluntary suspension of the use of the drug is almost impossible ; in this case it was effected spontaneously under certain circumstances and with comparatively little suffering.

(3) In this case the injections were made in the afternoon, evening or night, never in the morning. The morphia maniac, on the other hand, deprived of the poison for some hours and exhausted from want of sleep, must make the injections in the morning to refresh himself as an alcoholic drinks to stop his morning tremors. And it is necessary for him, like the alcoholic, to continue the use of the drug all through

the day without measure or method, until in the evening he desists because his organism is saturated.

(4) The large doses employed by the patient.

(5) The use of morphia and cocaine together. The morphia maniac rarely uses the two drugs because he is aware of their antagonism. If he uses the second it is because he is in want of the first or is in search of new sensations. He is always a monotoxico-maniac. He may casually employ other poisons, but he finishes by giving preference to one, of which he becomes the absolute slave.

J. BARFIELD ADAMS.

The Influence of Alcohol in the Production of Hallucinations in General Paralysis of the Insane. (*Journ. Nerv. and Ment. Dis.*, April, 1919.) Immermann, S. L.

The frequency of hallucinations in general paralysis has been much disputed, some authors stating they are common, others rare. Immermann's study was undertaken to determine, if possible, what relation alcoholism has to hallucinations in paresis. Several theories have been advanced to account for the occurrence of hallucinations in paretics: (1) The anatomical theory. (2) The theory of the previous personality of the patient. This supposes that a paretic who is not merely demented is suffering from a psychosis in addition to his paresis. (3) The toxic theory. (4) The psychogenic theory. This possible source has not been investigated in this study.

Immermann in his 73 cases found 21 patients to be hallucinated—11 visual, 10 auditory—and 52 patients to be non-hallucinated. He divides these groups into sub-groups and gives a table showing the percentages to alcoholism in each sub-group. His conclusions are summed up as follows: "(1) In a study of seventy-three paretics the patients were found to fall into several clinical groups, which tended to remain fairly distinct. (2) Hallucinations were found to occur in certain of these groups and tended to remain confined to these groups. (3) Excessive alcoholism occurred in only some of the hallucinatory groups, and was at most an indirect factor in the production of the hallucinations. (4) Certain manic types showed hallucinations and a high incidence of excess of alcoholic use, abnormal make-up and absent knee-jerks, but other hallucinatory patients did not show this combination."

C. W. FORSYTH.

Simulation (Malingering) not an Adequate Diagnosis. (*Journ. Nerv. and Ment. Dis.*, September, 1919.) White, W. A.

The writer would confine the conception of simulation (malingering) to cases where the symptom can be shown to have its origin in the field of clear conscious awareness of the individual, who at the same time has the conscious purpose in mind to deceive, to avoid responsibility or to escape punishment. The diagnosis of malingering is not an adequate one as we have no right to diagnose from a single symptom. Experienced psychiatrists look upon simulation *per se* as a relatively unusual phenomenon, and see in the simulator an individual with bad personality make-up and in the symptom an expression of such defect;

it is the individual's reaction—his way of meeting a problem presented to him by reality. His reaction is an indication of a defective personality.

The usual attitude of the herd towards the malingerer is one of condemnation: he deserves punishment. Punishment is useful for the purpose of reinforcing the repression and is to that extent valuable, but for the individual the punishment should have nothing of hate in it. It should be devised with the sole idea of changing the type of reaction from an antisocial form to a socially acceptable one—that is, an attempt ought to be made to sublimate the instinctive antisocial expression. This is only possible by the sympathetic understanding of the conflict and of the reaction of each individual.

C. W. FORSYTH.

An Acute Prison Neurosis of the Anxiety Type. (Journ. Nerv. and Ment. Dis., October, 1919.) Yawger, N. S.

Gleuck has well shown that the criminal occasionally develops a psychosis as the result of his confinement in prison on the top of a psychopathic personality. The writer has, however, found that occasionally an anxiety neurosis is manifested. About one-third of the convicts coming up for pardon or parole show nervousness to a greater or less extent—the criminals refer to it as "pardonitis" or "parolitis"; the ones who escape the disorder appear to be those who expect favourable conditions to await them on their discharge. An account of the symptoms is given; they do not differ from those found in anxiety neurosis in life outside the prisons.

Yawger considers that the condition is the result of important factors aside from the sexual sphere. Some prisoners fear that they may not be released; a few know that detainers will be lodged against them and that they will be rearrested on discharge; in others—the majority—the anxiety neurosis is determined by the thought that when released they may be homeless and that they will be unwelcome members of society.

C. W. FORSYTH.

4. Treatment of Insanity.

The Problems of Pulmonary Tuberculosis in a Psychiatric Hospital. (Journ. Nerv. and Ment. Dis., January, 1919.) Silk, S. A.

This paper emphasises the importance of the tubercular problem in mental hospitals. Patients will be admitted suffering from this disease and other patients will develop it later. The duty of every hospital will be to cure as many cases as possible and to prevent the spread of the disease amongst non-tubercular patients. As regards general conditions, the construction of the hospital should be carried out on up-to-date hygienic lines, allowance being made for the maximum available amount of sunshine, light and fresh air at all times. Large porches or enclosed parts should be used for ambulant patients, the ventilation of wards and dormitories should be thorough, and in winter extra blankets should be used instead of keeping out fresh air by closing windows. The food supplied should be wholesome and varied.

To reduce the occurrence of tuberculosis and arrest the disease a systematic procedure is necessary. Specially constructed tuberculosis cottages accommodating 3 *per cent.* of the population are required, and in addition a large ward (the "preventorium") surrounded by porches for suspicious cases who do not cough or expectorate. As soon as a case is diagnosed as suffering from active tuberculosis it should be transferred to the tuberculosis cottage, but if the disease becomes arrested it should be transferred back to the "preventorium" first, and later sent back to the general ward or to the tuberculosis cottage as conditions direct. The routine followed in the tuberculosis department consists in giving patients additional food, as milk and eggs, at fixed times between meals, and in rest or the avoidance of strenuous work. A thorough examination of patients in the "preventorium" should take place at least once monthly, weighing weekly, and the pulse, respiration and temperature charted twice daily and cough and expectoration noted. The management of the tuberculosis department should be under a specially-trained physician, or if impracticable, it should be entrusted to a member of the staff who is best fitted for the work. The staff nurses in this department should not be transferred to ordinary wards. The co-operation of physicians in charge of general wards is necessary, as they are in contact with the cases in the earliest stages of the disease, when removal to the tuberculosis department can be a help both as regards cure and the prevention of the spread of the disease. Special attention should be paid to dementia præcox cases as they are very vulnerable to tuberculosis. In order that an early diagnosis of tuberculosis may be made the following rules should be observed :

(1) A thorough initial physical examination ; (2) the weight of every patient noted on admission and at regular intervals thereafter ; (3) persistent cough or expectoration should be reported to the physician ; (4) a full history should be elicited if possible ; (5) all cases showing symptoms of tuberculosis should be carefully examined.

F. E. STOKES.

5. Pathology of Insanity.

The Correlation between Mental Defects and Anomalies of the Hard Palate. (Amer. Journ. of Insanity, April, 1919.) Case, Irene.

This investigation was carried out in the Psychopathic Laboratory of the University of Chicago, on the casts of the palate of forty-six normal and abnormal children brought to the laboratory, and is an attempt to test the doctrine, taught for over three centuries, that a deformed palate is frequently found in the feeble-minded. Is it really true, the author inquires, that a defective palate indicates a defective mentality?

The cases seem too few for assured results, but the examination was elaborate, and the measurements of the palate were considered in relation to the measurements of the head and to the "mental age" of the subject. The author's main contention is that the size of the palate is correlated with the size and shape of the head. The abnormal palate varies more than the normal simply because the head varies

more in size and shape in abnormal than in normal individuals. In general two types of palate were noted : (1) High and narrow, associated with a dolichocephalic head ; (2) low and broad, associated with a brachycephalic head. Thus the head form determines the palate form, and either of the two forms may be normal. There is no necessary connection between a low mental capacity and a high palate. The female palate is smaller than the male, except as regards height ; this depends on a general tendency for small heads to have high palates. As for asymmetry, the normal individuals showed it as generally as the abnormal and sometimes to as marked a degree.

HAVELOCK ELLIS.

Notes on the Relation of Tuberculosis to Dementia Præcox. (Journ. Nerv. and Ment. Dis., September, 1918.) Southard, E. E., and Cameron, M. M.

The statistics used for this study were obtained from the autopsy series of the Massachusetts Institution for the Insane. Of 5,040 autopsies there were 403 cases of dementia præcox, of whom 301 died of proved and 15 of doubtful tuberculosis, and 339 cases of manic-depressive psychosis, of whom 224 died of proved and 20 of doubtful tuberculosis. There were 87 cases of dementia præcox and 95 cases of manic-depressive psychosis who showed no signs of tuberculosis *post-mortem*. In this group of dementia præcox cases the tuberculosis hypothesis could not be raised as to ætiology on any anatomical grounds. It is possible that these non-tubercular cases were incorrectly diagnosed? To test this hypothesis the symptomatology of non-selected cases from the Danvers collection was examined. These cases of dementia præcox were divided into two groups: (1) Tubercular, (2) non-tubercular—proved so *post-mortem*—there being 36 of the former and 27 of the latter. The tubercular as compared with the non-tubercular cases were equally subject to dementia and to delusions of persecution, were more apt to be resistive, violent, and subject to psychomotor excitement, were more suicidal, manneristic, disorientated and confused, and slightly more subject to delusions involving personality; the non-tubercular cases were more apt to be peripherally restless, mute, refuse food, and be subject to somatic delusions. Can it be that tuberculosis supervening in dementia præcox directs the symptoms more towards catatonia and to hyperkinetic symptoms presumably of a psychogenetic or central nature, and less to peripheral forms of hyperkinesis, and may tuberculosis cause a trend of symptoms towards the manic-depressive psychosis?

F. E. STOKES.

6. Sociology.

Psychiatry as an Aid to Industrial Efficiency. (Amer. Journ. of Insanity, April, 1919.) Bell, Ju Don.

The psychiatrist who realises the changed conditions of the times and the urgency which labour and economic conditions are to-day assuming may sometimes ask himself where he comes in. Dr. Bell attempts to

help him in answering this question, basing his conclusions on the results of visits to large industrial plants in various parts of America, interviews with managers and men, and much detailed study of individual workmen. He believes in close relationship between employer and employee and the stabilisation of industry by practical scientific selection of human material, creating trust, confidence and co-operation. To this end it is necessary to study the individual as to his physical, nervous and mental fitness for his job, and to ascertain his special abilities and disabilities. Prophylactic measures adopted now, with the sympathetic co-operation of labour and industrial leaders, will prevent the disease of inefficiency from making further inroads upon either capital or labour, stabilising and unifying both. The present industrial research—not only scientific in aim, but practically humane and economic—is the preliminary stage of a work which, the author believes, has not previously been attempted.

The chief part of this paper deals with methods of procedure and schedules. The methods include (1) general medical, (2) neurological, (3) psychiatric, (4) psychological, and (5) social, since the scheme involves the co-ordination of all scientific aids in industrial examinations. Such a scheme could be put into operation in the employment bureau of industrial organisation, and also used to ascertain the physical, nervous and mental equipment of workers already employed.

As an example, the results of an examination of fifty-seven employees of an industrial company is presented shortly before a strike occurred. All the strikers were found to have something wrong with them from a nervous or mental standpoint, nearly all having a psychopathic history. Such an examination, it is claimed, is of value in predetermining conduct and enabling the employer to remedy conditions likely to cause trouble.

The author concludes that it is desirable, even from an economic point of view, to establish medico-psychological laboratories as the principal department of employment bureaus of every large industrial organisation, and further advocates the establishment of a central employment clearing-house with medico-psychological laboratory to act for groups of industrial organisations too small to economically conduct their own bureaus. There should be a representation of labour in all such bureaus, which would react to the benefit alike of the individual, the industrial organisation, the labour organisation and the community.

HAVELOCK ELLIS.

7. Mental Hospital Reports, 1918-19.

Report on Lebanon Hospital, 1918-19.

The Twentieth Report, covering 1918-19, is an extraordinarily interesting one, and it gives a clear account of the good work done at this international asylum. It also points out the great amount of tact that was exhibited by Dr. Watson Smith. In fact, it is almost like a romance to find that, of all institutions, hospitals and the like that had been under the control of Europeans, it was the only one that was not seized upon by the Turks and altogether upset. On several occasions there

were missions from Turks with the idea of taking over the place and of replacing the doctor there, but by the exercise of an extraordinary amount of tact he was able to get the Turks to recognise that it was not an English institution, but was a benevolent institution, by which the Turks gained as much as did Europeans. So that, even when thousands were dying in the neighbourhood of starvation, the hospital was able to get a steady supply of flour. There was a time when the assistance of the United States was very useful to the institution.

For two years during the war Dr. Watson Smith practically never left the building: it was not safe for him to do so, as he might easily have been deported. Fortunately, since then he has been able to leave his work and get a rest, the while he is acting as propagandist in Europe and America. And we trust that when he returns to his arduous task he will be encouraged by the support that he has gained in these two countries.

Not only was the asylum used for the ordinary patients, but the Turks themselves removed a considerable number of patients who were certainly in a very distressed and distressful condition from Damascus: and later on it was utilised for the soldiers of the Allied forces.

During the war Dr. Watson Smith had very great difficulties to contend with, such as difficulties with the authorities in getting food. And, without going into details, I may say that, one way and another, he managed to surmount them all and was able to keep on good terms with the Turkish authorities, so they gave him much less trouble than was given to the administrations of other foreign institutions. It is quite certain that admirable work is being done, and that all praise is due to Dr. Watson Smith. There is no doubt that, as in Egypt, there is a very great want of further development and further accommodation, and as this Lebanon Hospital is international and receives considerable support not only from England and America but also from other countries, such as Switzerland, one feels confident that a great future is before it.

GEORGE H. SAVAGE.

Lunacy in Egypt, 1918.

Once more we have to note the receipt of the annual report of Drs. Warnock and Dudgeon, and once more we have to speak of it as a model of what such reports should be. During the year Dr. Warnock had a much-needed holiday and his place was filled by his deputy, Dr. Dudgeon.

The chief points only can be extracted from the report for every page is noteworthy. The usual overcrowding at both asylums occurred, with the inevitable result that many patients had to be sent away when only convalescent, and many of these relapsed and many were readmitted as criminals.

Dr. Warnock points out the need for several more asylums; there should certainly be one near Alexandria and a special one for the male criminal lunatics, who, at present, have to be placed in the Cairo asylum of Abbasiya. Besides these there should be receiving homes, for though a fair proportion of the cases pass through local hospitals no special provision is made for them. The usual difficulty about a suitable staff

was accentuated, for many were called up for military duties. The medical instruction connected with the Egyptian School of Medicine was continued.

In addition to the local cases provision had to be made for soldiers connected with the British Army. This was managed by taking over the house of the former Assistant Medical Officer.

There was nothing very special about the cases, though it seemed a large proportion were defectives who ought never to have been enlisted and certainly not sent abroad. A table is given of the nature of the cases; very few deaths occurred, but few of the patients were long resident, being sent out of Egypt as soon as possible. Carefully arranged tables are given of the patients who were received as criminals and the various crimes for which they were under treatment, also the supposed causes of the mental disorder. Here it is noteworthy that pellagra played a very important part; crimes of violence were common. It certainly is one of the blots on the Egyptian Government that the criminals and lunatics are herded together, though, as Dr. Warnock points out, he separates them as much as possible. A fair proportion of general paralytics were admitted and quite a large proportion of these were women. Wassermann reaction proved positive in most but not in all of the cases. The examination was conducted in the Government Laboratory and is therefore to be trusted. Besides the general paralytics a large number of other patients were examined and a very large number, especially of the pellagrous cases, proved positive. This is noteworthy. The diet was to a considerable extent modified during the war and a careful study of the dietary was made in relation to the pellagra.

Prof. Wilson, of the Government Health Department, advised on this and caused modification of the diet making up for the deficiencies, but with all the treatment the disease when once established is believed by Dr. Dudgeon to be incurable. He tried all sorts of remedies for the various symptoms, and though remissions did occur the disease returned.

The death-rate was high, but this was partly due to bad diet and partly to the gradual accumulation of old and chronic cases. *Post-mortems* were frequently made and scientific work would have been carried out if the staff had not been shorthanded.

The tables giving the local incidence of insanity are of only local interest, but one has to notice that the general paralytics come most from Cairo and cities while the pellagrous come largely from the provinces. The details of the cost and the modification in the building are given.

As to treatment sedatives were not given to any extent and practically no restraint was used; very few accidents of any kind are recorded.

We must extend our sympathy to the doctors and their families because the disturbed state of the country has rendered their lives irksome and even dangerous.

Dr. Dudgeon gives a special and interesting account of the work done at Khanki. He receives chiefly the provincial patients direct but also a proportion of the chronic cases from Cairo. His asylum is of course new and growing. It was always more than full and for a time he had water and other difficulties, but he has done great

things in converting a desert into an oasis. He provides vegetables for his own and for the parent institution and makes the farm remunerative. Gradually means of approach to Cairo are improving so that the asylum is not so isolated as it was. Excellent tables are given and much information about pellagra and its symptoms are collected; here is, too, an interesting table as to the result of examination of the fæces of a large series of cases and a list of the prevalent parasites is given. Influenza was a source of trouble but was not as fatal as might have been expected.

We feel that the report should be more generally seen, and we are sure that the English alienists have reason to be proud of the work of their Egyptian colleagues.

GEORGE H. SAVAGE.

Part IV.—Notes and News.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.

THE ORDINARY QUARTERLY MEETING of the Association was held at the Medical Society's Rooms, No. 11, Chandos Street, W. 1, on Tuesday, February 24th, 1920, Dr. Bedford Pierce (President) in the chair.

Members present: Dr. Bedford Pierce (President), Major R. Worth (General Secretary), Sir R. Armstrong-Jones, Sir F. W. Mott, Drs. H. Baird, G. F. Barham, F. Beach, C. W. Bower, D. Bower, A. Helen Boyle, J. Chambers, G. Clarke, R. H. Cole, P. C. Coombes, H. Corner, M. Craig, A. W. Daniel, J. F. Dixon, R. Eager, J. H. Earls, H. Eggleston, S. C. Elgee, A. E. Evans, S. J. Gilfillan, H. E. Haynes, R. D. Hotchkis, D. Hunter, G. H. Johnston, M. H. Johnston, J. Keay, E. S. Littlejohn, J. R. Lord, J. A. Lowry, W. F. Menzies, J. Middlemass, A. Miller, D. Nicholson, D. Ogilvy, E. S. Pasmore, N. R. Phillips, D. Ross, G. E. Shuttleworth, J. H. Skeen, G. W. Smith, R. P. Smith, J. G. Soutar, J. B. Spence, R. H. Steen, J. Stewart, R. C. Stewart, F. R. P. Taylor, D. G. Thomson, E. Barton White, H. Wolseley-Lewis.

Members present at the Council Meeting: Drs. Bedford Pierce (President), R. Worth (General Secretary), D. Bower, A. Helen Boyle, J. Chambers, R. H. Cole, M. Craig, A. Daniel, R. Eager, R. D. Hotchkis, J. Keay, J. R. Lord, H. C. MacBryan, T. C. Mackenzie, W. F. Menzies, A. Miller, J. Noel Sergeant, G. E. Shuttleworth, J. H. Skeen, R. H. Steen, D. G. Thomson and H. Wolseley-Lewis.

Apologies were received from Profs. Obersteiner (Vienna) and Emil Kraepelin (Munich), and Drs. L. R. Oswald, G. Douglas McRae, J. P. Westrupp, J. Mills, D. A. Pilcz (Vienna), J. Whitwell, R. B. Campbell, T. Stewart Adair, G. M. Robertson and J. N. Greene Nolan.

The minutes of the last meeting, having already been printed and circulated in the Journal, were taken as read and were duly confirmed.

MATTERS ARISING FROM THE COUNCIL MEETING.

The PRESIDENT said the next item concerned business which arose out of the Council meeting just held. He asked Major Worth to refer to the appointment of a Handbook Committee.

Major WORTH (Secretary) said the following members had been approached to form themselves into a Committee charged with the revision of the Handbook, under the style "The Editorial Handbook Committee": Representing England—Dr. Bedford Pierce, Dr. Middlemass and Dr. Rees Thomas; representing Scotland—Dr. Mackenzie, Dr. Donald Ross and Dr. George M. Robertson; representing Ireland—Dr. Rutherford and Dr. Nolan. All these gentlemen had expressed their willingness, and steps were being taken to call them together.

The other matter arose from certain correspondence he had had with the National Asylum Workers' Union. Probably members were aware that that Union was taking steps to bring before Parliament some amendments of the Asylum Officers' Superannuation Act, 1909. He also had been in correspondence with the Clerks', Stewards' and Storekeepers' Association, on the same subject, and it had been decided that a conference should be held, consisting of four members of the Union, two members of the Clerks', Stewards and Storekeepers' Association, and two members of our Association. As representatives of our Association Dr. David Thomson and himself had been chosen, their function being chiefly to hold a watching brief, because, at the moment, they had no definite mandate.

The PRESIDENT said there was one other matter which came forward from the Council meeting. The Asylum Workers' Association had a small fund for the benefit of nurses who were sick, the amount of the fund being about £80, and they had invited this Association to administer that fund when the Asylum Workers' Association shall have closed down finally. At that morning's Council meeting it was decided to accede to that request. The Secretary and Treasurer, with Dr. Shuttleworth and Dr. Powell, were appointed to act as a small Committee to deal with cases as they arose.

Another subject which was discussed by the Council, and which he brought before the meeting, was one arising out of a letter which had been received pointing out the serious and grave hardship many old asylum workers were under owing to the depreciation in the value of money, and it was thought it would be proper for this Association to draw attention to the matter. It did not require any speech to justify it. A pension which was no more than modest when granted was very meagre indeed at present value of a sovereign. With the approval of this Association, it had been suggested that he, the Secretary and Dr. Miller, jointly, should write a letter on behalf of this Association, pointing out the serious hardship accruing to many old asylum servants through the depreciation in the value of their superannuation allowance, and that this letter be sent to the Prime Minister, the Minister for Pensions, the Minister of Health, and the Secretary of the Hospitals' Association, and such others as were likely to be influenced by the communication. He asked if any had observations to make.

Sir ROBERT ARMSTRONG-JONES said he did not think it would be possible to alter the amount of the pensions, as they had been granted according to law, and to change it a new law would be required.

Lt.-Col. LORD said that this was understood, and the idea was that a change in the law should be advocated.

Dr. DIXON said he thought the difficulty was that the same question arose regarding old pensioners of the army and navy.

The PRESIDENT said that this communication would only refer to the matters of which we had definite information, although, of course, it raised a much wider issue.

The meeting approved the communication being sent.

STUDY FACILITIES FOR ASSISTANT MEDICAL OFFICERS.

Lieut.-Col. D. THOMSON said members would remember that a very valuable paper was read before the Association at the last meeting on the question of the special education of junior medical men who took up this specialty. This was a subject which required to be tackled and dealt with afresh, now that all were more or less settling down to their former work, and the subject was coming forward more definitely. He suggested that the committee, which previously dealt with this and allied subjects in 1908 when it was first brought forward on a short paper of his own, might be a suitable body to be reconstituted for this purpose. The chairman on that committee had retired from active work, but he was present to-day. He referred to Dr. McDowall. That committee did splendid work, and issued the report which was well known (*vide* p. 373, July number, 1910.—Eds.).

The PRESIDENT said he thought a committee should be set up to deal with the many important aspects of this subject, such as that of study-leave.

Lieut.-Col. D. THOMSON said that progress had been made, and there had now been established a series of courses of lectures at the Maudsley Hospital. Many junior medical officers throughout the country were eager about this matter, and he thought this Association ought not to drop the subject after doing very good

pioneer work. He moved that a committee of this Association be appointed to consider the very important questions which now arose in connection with the obtaining of the diploma in psychiatry.

The PRESIDENT said he would like to hear Dr. McDowall speak on the subject, and perhaps he would second Dr. Thomson's proposition.

Dr. McDOWALL seconded the motion of Lieut.-Col. Thomson.

Lieut.-Col. LORD said he hoped it would be an instruction to the committee to go into the whole question of medical officers' duties. The great dearth of medical officers, and the difficulty of getting junior men from the hospitals to select psychiatry as their life-work, was that the work was not made sufficiently attractive quite apart from questions of pay and conditions of service generally. The problem of the cure of insanity was the most difficult one in the whole region of medicine, and therefore the very best brains in the profession should be attracted and brought to bear upon it or progress would be impossible. A sound training in scientific psychiatry was the first step, then opportunities for further study from time to time, and the routine work to be essentially professional and not administrative, the latter being adapted to secure this.

Sir FREDERICK MOTT said that it would be wise to include a young and junior medical officer among those who would form the committee.

Dr. PASSMORE said he would like to suggest that this committee consider the subject of quarters for married assistant medical officers. The absence of such accommodation was a drawback in the case of those who might wish to enter the specialty.

The PRESIDENT said he gathered that the burden of Col. Thomson's motion was the scientific training of the younger men in the specialty, the best method of securing and encouraging effective training, to assist them in obtaining a diploma in psychiatry, and generally promote the scientific side of the work. To introduce the other matters would complicate the reference.

Dr. BOWER said one of the chief subjects Col. Thomson was interested in was the difficulty which assistant medical officers laboured under in getting away from their duties on study-leave. That was a matter on which there was a need of strong recommendations by the Association, and he thought that generally committees of asylums would need to be educated on the matter and would fall in with any good scheme which the Association might approve.

The PRESIDENT replied that the first step was to appoint the committee; its constitution would come later.

The appointment of a committee was approved.

Col. THOMSON said that such members of the former committee as did the spadework on this subject should be re-appointed; it would be invidious for him to mention names. He thought Col. Lord should be on it: he was in London, and in touch with London mental hospital work. If the meeting would agree to the appointment of the original committee, with power to add to their number, that would save the nomination of individual members. The reference, he thought, should be that the committee consider the whole subject. Diplomas in psychiatry had already been established at five Universities. He had spoken on the matter to one or two active, ambitious young men associated with him at Thorpe, Norwich, and they said—"Yes, it is very nice, but how can we get study-leave"? The Maudsley Hospital courses were convenient for London men, but what about the provinces? He thought the Association should consider how the young men joining the specialty, or those whom it was hoped would be induced to join it, best could take advantage of the existing provisions. Details as to the provision of married quarters concerned individual asylum committees.

The PRESIDENT suggested "To consider the best method and facilities for training in psychiatry, and for the obtaining of the diplomas which exist," should be the reference for the committee.

Col. THOMSON agreed.

After further discussion by Dr. SOUTAR and Dr. BOWERS—

The PRESIDENT suggested as members of the committee Col. Thomson, Col. Lord, Dr. T. W. McDowall, Sir Frederick Mott and Col. Rows, with power to add to their number.

Sir FREDERICK MOTT repeated his former suggestion.

Dr. NICHOLSON said Dr. Soutar would be an excellent member of this committee.

Col. THOMSON suggested that perhaps Dr. Bond would be willing to serve. The PRESIDENT said Dr. Chambers was willing to serve; he hoped Dr. Bond also would consent to do so.

Sir R. ARMSTRONG-JONES suggested Dr. Helen Boyle.

This concluded the list.

The following were elected members of the Association :

PARNIS, HENRY WILLIAM, M.R.C.S., L.R.C.P., A.M.O., London County Mental Hospital, Colney Hatch, N. 11.

Proposed by Drs. Gilfillan, MacArthur and Worth.

HAYNES, HORACE GUY LANKESTER, M.R.C.S., L.R.C.P., Littleton Hall, Brentwood, Essex.

Proposed by Drs. Sergeant, Haynes and Bower.

SHEARER, CHRISTINA HAMILTON, M.B., Ch.B., Visiting Physician, Lady Chichester Hospital, 11, The Drive, Hove, Sussex.

Proposed by Sir Robert Armstrong-Jones and Drs. Helen Boyle and Percy Smith.

ROBINSON, WILLIAM, M.B., Ch.B., D.P.M. Leeds, Senior Assistant, Wakefield Asylum, West Riding Asylum, Wakefield, Yorks.

Proposed by Drs. Shaw Bolton, W. Vincent and T. Stewart Adair.

PARKIN, GEORGE GRAY, M.B., Ch.B., Assistant Medical Officer, Cheshire County Asylum, Parkside, Macclesfield.

Proposed by Drs. Parkin, Dove Cormac and Stewart Adair.

HEAL, JAMES GORDON FREEMAN, L.M.S., N. Scotia Provin. Med. Bd., 1915, M.D., C.M., 1915, Swallows' Nest, Felixstowe.

Proposed by Drs. Gilfillan, MacArthur and Worth.

PAPER.

Dr. R. HUNTER STEEN: "Chronic Hallucinatory Psychosis" (*vide* p. 99).

The PRESIDENT said he thought members could congratulate themselves, also Dr. Steen, on an exceedingly able paper, and particularly on the charming and lucid way in which he had presented the subject. Rarely did the Society hear a contribution which was so easy to listen to because so clearly expressed. It went a long way towards making a successful meeting to have a subject presented in a forcible and clear way. Dr. Steen had endeavoured in this paper to show his colleagues a new psychosis, to make out a case for a fresh clinical entity. The train of symptoms was one with which all psychiatrists were familiar; there was no one in the room who had not seen patients of the type Dr. Steen had just described, and it was to be hoped there would be a good discussion. In reference to the definition of paranoia, and whether such cases had hallucinations as a marked symptom, he said that some of those present would remember Dr. Percy Smith's Presidential Address on that subject, in which he showed that the definition of paranoia was far from lucid and exact, and that what passed under that name was hardly a definite clinical entity. He (Dr. Pierce) could not agree with Dr. Steen, for he believed cases of paranoia had hallucinations, and for that reason he was inclined to think Dr. Steen had not fully separated his malady from paranoia.

Dr. MENZIES said he had never seen a case of paranoia without hallucinations of hearing, and, with all respect to Kraepelin and his school, he did not think such existed. He did not know whether Dr. Steen had followed up cases of the kind for twenty or twenty-five years, but they certainly become very demented, and in the end ordinary chronic lunatics. On making a *post-mortem* examination on such one always found the usual thickening and cortical wasting. They could not be distinguished from other chronic mental cases. It might be that the alienist did not see the cases described by Dr. Steen, as they did not progress, and hence did not find their way into asylums, but the kind which did go there progressed steadily. They were called paranoics at first, and afterwards were known as chronic maniacs. It came once more back to the question of all forms of insanity being but one. Everything in insanity known at present was, more or less, only a symptom, as Clouston tried to point out many years ago. Still, giving a name to a condition helped, and when it was discussed it could be with a knowledge of what was meant. With regard to the anatomical point of view he had his quarterly debate with Dr. Bolton, and he (Dr. Menzies) always suggested that the reason why the cerebral hemispheres became so wasted and

membranes thickened in that area was partly geographical, partly developmental; that the spinal fluid secreted by the choroid plexuses under pathological circumstances was toxic, and it was possible that might affect directly the pyramidal cell layer of the audito-sensory and audito-psychical centres. He did not see, however, why research into these conditions need be confined to the psychical side. Unless the attack were conducted from the anatomical, and especially from the chemical standpoints, there was not likely to be much progress, because, after all, psychology only indicated certain steps on the way.

Dr. PERCY SMITH said the President had been good enough to refer to his (the speaker's) Presidential Address on paranoia. As, however, that was now some sixteen years ago, he was entitled to have forgotten what he then wrote. He believed he then pointed out that people who had described paranoia—many in Germany and other countries had written on it—had referred to acute hallucinatory paranoia and chronic hallucinatory paranoia. Included in paranoia there was mentioned, by different authors, almost every kind of acute psychosis met with, even acute delirious conditions, which was absurd. He did not think he said in his address that in no cases of paranoia were there hallucinations; any assertions of that kind he would regard as far too sweeping. It had been the fashion of late years to say that if a patient had hallucinations it was not a case of paranoia, which seemed to him to be on a par with saying that in cases of paranoia there was no emotional disturbance—a statement which was at one time current. He believed one of the points he made in his paper referred to was to show that cases, to which the term "paranoia" was properly applied, began often with serious emotional disturbance. His view was that many cases of paranoia did have hallucinations. He was not present to hear the first part of Dr. Steen's paper, therefore he did not know what the author said about the ætiology of the condition he described; but no doubt psycho-analytical friends would say, "Are not these cases psychogenetic?" Many of the cases sounded like those in which there was a history of exhaustion, or of a toxic condition, like that resulting from alcohol.

The PRESIDENT said that before calling upon Dr. Steen to reply he would like to ask him whether he was prepared with any suggestion as to how it was possible for a mental conflict to produce mental dissociation. He was sorry there had not been a fuller discussion, but probably that was because it was a subject which members would like to think over at leisure before expressing any decided opinions.

Dr. STEEN, in reply, said he was very grateful for the way in which members had listened to his paper. In regard to the question asked by the President as to why a conflict produced dissociation, he was sorry he was unable to give a satisfactory answer. Still, he had no doubt that a mental conflict did produce dissociation, especially if such conflict had been rigorously repressed; he laid stress upon this last point. In the first case he related there was a very severe mental conflict, which was being sternly repressed. After this had been revealed to the patient the symptom ceased. Unfortunately he had not then time to proceed further with the investigation; it was during the war, and his time was very fully occupied. Therefore he did not carry out a full psycho-analysis. The symptoms disappeared for three years, though unhappily at the end of that time the patient returned, with the symptoms even intensified owing to the return of the conflict. The discussion on the paper had ranged largely round the question of the similarity of the condition he had described to paranoia. Dr. Percy Smith had said there were hallucinations in paranoia; and he (Dr. Steen) would agree there were hallucinations in some cases of paranoia, but he wished specially to point out that paranoia was a disease characterised by delusions, and the rule was for hallucinations to be absent; the latter were not a characteristic feature of paranoia. On the other hand, the cases he had described were so characterised. In the first of the cases, for instance, a girl came to him with weeping fits, and he then discovered she heard voices. After talking to her on three or four occasions the voices ceased. There were no delusions. Her case was not one of paranoia as he understood it. The second case had had hallucinations of hearing for about six years, but there were no delusions whatever. He could not fit that case into paranoia either. Eventually she might develop delusions—indeed, he thought that process had already commenced. He could not call that case one of paranoia. He had been glad to hear what Dr. Menzies said about a physical

basis for hallucinations. In his own reading on the subject of hallucinations and their study the conception of them from a physical standpoint had not helped him in the least. Approach from the psychical side did, however, give him a better insight into the condition. A physical basis must exist, but if these hallucinatory cases were viewed from the standpoint of the existence of a mental conflict in the patient, which was being repressed, and efforts were made to deal with this in an early stage by psycho-analysis, he believed many of them would recover.

SCOTTISH DIVISION.

A SPECIAL MEETING of the Scottish Division of the Medico-Psychological Association was held in the Royal College of Physicians, Queen Street, Edinburgh, on Friday, February 13th, 1920.

Present: Lieut.-Col. Keay, Major Hotchkis, Drs. Buchanan, Drummond, Kerr, MacDonald, Tuach Mackenzie, Oswald, G. M. Robertson, Skeen, Shaw, Steele, and R. B. Campbell (Divisional Secretary).

Lieut.-Col. Keay occupied the chair.

Apologies for absence were intimated from Drs. Easterbrook, McRae, Carre, T. C. Mackenzie, Donald Ross, and Crichlow.

The SECRETARY read a letter which he had received from the Secretary of the Scottish Board of Health, requesting the Scottish Division of the Medico-Psychological Association to submit the names of two "suitable persons" to the Board of Health for their consideration in appointing a General Nursing Council in terms of the Nurses' Registration (Scotland) Act, 1919. The Secretary stated that he had referred the matter to the Business Committee, who had nominated Drs. G. M. Robertson and L. R. Oswald, and that he had sent their names to the Scottish Board of Health. The Division approved of the Business Committee's selection, and also the action taken by the Secretary.

The Nurses' Registration (Scotland) Act was then considered in detail and various points discussed. It was decided that the Business Committee should be authorised to act as an Advisory Committee to the Division's representatives on the General Nursing Council, to whom all matters could be referred.

The Division considered it would be expedient to have someone representing mental nurses nominated as a member of the Nursing Council. In the course of discussion it was pointed out that the Board of Health had already taken steps to have this done. It was finally decided that the Secretary should find out if this was the case, and if on inquiry it was found that no nomination had been made, Lieut.-Col. Keay and the Divisional Secretary should interview the Board of Health, and lay stress on the advisability of having someone nominated to represent the interests of mental nurses.

A vote of thanks to the Chairman for presiding terminated the business of the meeting.

A MEETING of the Scottish Division of the Medico-Psychological Association was held in the Hall of the Royal Faculty of Physicians and Surgeons, Glasgow, on Friday, March 19th, 1920.

Present: Lieut.-Col. Keay, Drs. Buchanan, Clarkson, Chislett, Easterbrook, Kate Fraser, Hotchkis, Henderson, Kerr, Macdonald, McRae, Richards, Roberts, and R. B. Campbell (Divisional Secretary).

Lieut.-Col. Keay occupied the chair.

The Minutes of last divisional meeting were read and approved, and the Chairman was authorised to sign them.

The SECRETARY intimated apologies for absence from Drs. G. M. Robertson, Oswald, Orr, Tuach Mackenzie, Shaw, T. C. Mackenzie, Skeen, Steele, Ross, and Boyle.

The SECRETARY read the following letter which he had received from the Secretary, General Board of Control, regarding the petition which had been sent to the Board in support of the continued employment of female nurses in the male wards of asylums:

[COPY.]

GENERAL BOARD OF CONTROL FOR SCOTLAND,
EDINBURGH;*March 8th, 1920.*

SIR,—Your letter enclosing a memorial from the medical officers of Scottish asylums on the question of the attitude of the Asylum Workers' Union towards the employment of female nurses in the male wards of asylums was laid before a meeting of the Board held here on the 3rd inst.

In reply I am directed to state that in the opinion of the Board it is highly regrettable that an economic dispute, unconnected with the intrinsic merits of the important question at issue, should imperil a system of nursing which affects the comfort and happiness of thousands of helpless individuals.

The Board have always regarded the introduction into asylums of the nursing of male patients by women as among the more important advances in the care of the insane which has occurred in the history of Scottish lunacy administration. The Medical Commissioners early recognised its value, and they have constantly advocated its extension because of its beneficial results and its humanising influence, not only upon the patients immediately subjected to it, but upon the general tone of the institutions in which it has been adopted.

For many years in this country the sick of both sexes and of all classes, whether in hospitals or in private houses, have been tended by female nurses, and the Board can conceive of no valid reason why the male inmates of asylums, with very few exceptions, should not equally participate in the same benefit.

The medical officers of Scottish asylums may rest assured that the Board will continue to use their influence in the direction of supporting and extending the nursing of the male insane by women.

In view of the importance they attach to the matter, the Board have directed that a copy of the memorial and of this letter be sent to the Secretary for Scotland for his information.

I am, Sir,

Dr. CAMPBELL,
Stirling District Asylum,
Larbert.

Your obedient servant,
A. D. WOOD,
Secretary.

The Division were gratified to learn of the warm support offered by the General Board, and unanimously agreed that the letter should be incorporated in the Minutes. The Secretary was instructed to write the General Board of Control expressing the thanks of the Division for the letter and for their promise to support, and at the same time to ask permission to circulate copies of the letter to the asylum authorities who received the petition, namely, clerks of District Boards of Control and secretaries of Royal Asylums Boards.

The SECRETARY submitted a letter which he had received from Dr. John Macpherson, Senior Commissioner, General Board of Control, proposing that arrangements might be made during this summer, preferably a date in either the month of May or June, to visit one of the "boarding-out" colonies to have a demonstration of the Scottish system of "boarding out." The Division approved of the proposal, and the Secretary was asked to write Dr. Macpherson thanking him for his offer. The Secretary was requested to make the necessary arrangements for the proposed visit.

Drs. T. C. Mackenzie and G. Douglas McRae were unanimously elected Representative Members of Council for the ensuing year, and Dr. R. B. Campbell was elected Divisional Secretary.

Dr. D. K. HENDERSON read an interesting and instructive paper on "Anxiety States occurring at the Involutional Period," which was followed by a discussion in which several members took part.

A vote of thanks to the Chairman for presiding terminated the business of the meeting.

IRISH DIVISION.

SPECIAL MEETING: MEMORANDUM TO THE CHIEF SECRETARY.

It having come to the knowledge of the Irish Division that the Ministry of Health "Irish Public Health Council," recently appointed, were at present dealing with matters possibly vitally affecting the interests of the insane poor and the future welfare of the Irish Asylum Service, it was decided to hold a special and urgent meeting of the Irish Division, so that a memorandum embodying the views of the members be placed, as soon as possible, before the Public Health Council, who had notified their willingness to receive a deputation from the Irish Division of the Medico-Psychological Association.

The meeting was held on February 14th, at the Royal College of Physicians, Kildare Street, Dublin.

Members present: John M. Colles, LL.D., K.C. (in the chair), Lieut.-Col. W. R. Dawson, Drs. M. J. Nolan, J. O'C. Donelan, Greene, H. Eustace, Irwin, H. R. C. Rutherford, O'Doherty, John Mills, Rainsford, Gavin, Benson, Leeper (Hon. Sec.).

The HON. SECRETARY stated to the meeting that the Parliamentary Sub-Committee of the Irish Division were directed at the autumn meeting to prepare a memorandum in connection with the proposed Public Health Council set up by the Ministry of Health, and present same to the spring meeting of the Irish Division. At the time it was not at all clear that this newly-appointed body intended to deal with the Asylum Service and matters in connection with the treatment of the insane. It having come to our knowledge that the Public Health Council was, however, now actively engaged in dealing with these matters, the Parliamentary Sub-Committee had drawn up a memorandum which they begged to lay before the members for consideration. It seemed to be of the utmost importance that the considered views of the members of the Irish Division should be laid before the Public Health Council before that body attempted to recommend legislation, especially as the Asylum Service had no representative whatsoever upon the Health Council, and had apparently been deliberately denied representation upon it.

Dr. Nolan had kindly drafted a memorandum which was submitted to the meeting and discussed clause by clause and finally adopted as amended by the meeting, and it was decided to accept the invitation of the Public Health Council and send a deputation to lay the important matters dealt with in the memorandum before them.

It was proposed by Dr. MILLS, Ballinasloe, seconded by Dr. H. EUSTACE, and passed unanimously, "That the following be asked to form a deputation and wait on the Public Health Council: Dr. M. J. Nolan, Downpatrick; Dr. J. O'C. Donelan, Richmond Asylum; Dr. Greene, Carlow; Dr. Martin, Letterkenny; Dr. O'Doherty, A.M.O., Omagh District Asylum; Dr. Rainsford, Stewart Asylum; Dr. Gavin, Mullingar Asylum; Dr. Leeper to act as Hon. Secretary."

Dr. O'DOHERTY wished a clause inserted dealing with the compulsory retirement of medical superintendents at an age limit. This was fully discussed, but not generally approved by the meeting.

MEMORANDUM OF THE IRISH DIVISION OF THE MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND RELATIVE TO LUNACY ADMINISTRATION IN IRELAND AND OTHER MATTERS AFFECTING THE IMPROVEMENT AND INCREASED EFFICIENCY OF THE IRISH ASYLUM SERVICE.

In connection with the proposed establishment of a Ministry of Health for Ireland, the Irish Division of the Medico-Psychological Association directs attention to the special needs of the Asylum Service in Ireland.

The care and treatment of the insane, as a branch of Public Health service, cannot properly fall within the ordinary scope of local government administration. The proportion of the population of Ireland concerned in this service is very large, the *personnel* of the staff employed very numerous, and the service itself is highly technical and specialised. This Division is convinced that the interests of the insane must suffer unless the Board of Health is in direct touch, through competent representation, with the governing bodies and medical officers of the Asylums.

It is submitted that this specialised service should be under the immediate control of a strong Lunacy Commission in analogy to the Board of Control in England—the Commissioners being associated with the Board of Health in whatever manner seems best calculated to ensure the general unity of control aimed at. The Lunacy Commissioners should be invested with adequate authority, and it would be possible (subject to the approval of the Lord Chancellor of Ireland) to place the Commissioners in such relation with the office of the Registrar in Lunacy that the position of the Commissioners would be fortified by the Lord Chancellor's judicial powers, and that the functions of the Board of Health, the Lunacy Commissioners and the Lord Chancellor's officers would be so co-ordinated that there should be no overlapping.

For very many years the law with regard to the insane in Ireland has remained practically unchanged, and it is only by good will on the part of all concerned that tolerable conditions are made possible in practice, not as the result of law, but in spite of it. It is eminently desirable that the law should be codified and brought up to date, but pending such codification legislation is urgently and particularly needed to deal with the following matters:

- (1) Affecting the patients more directly.
- (2) Bearing on the institutions for the insane.
- (3) Points primarily affecting the asylum officials.
- (4) Auxiliary asylums and "boarding out."

(1) AFFECTING THE PATIENTS MORE DIRECTLY.

Admission—Discharge—Transfer—Deportation—"Voluntary Boarders."

Admission.—It has been pointed out that the insane poor should not be treated as criminals to qualify them for the treatment of their mental disease. The use of the Dangerous Lunatic Form should be abolished, and patients admitted to asylums on an amended Form "D" or on an urgency form which shall be mandatory. In any event the word "destitute" in this Form "D" should be deleted, as it gives rise to many false declarations, and often operates against the interests of the rate-payers. The certification should be uniform. It is anomalous that while one certificate suffices for a pauper, a "paying patient" requires two medical certificates.

Mental Deficiency Act.—That an act on the lines of the Mental Deficiency Act, 1913, be extended to Ireland.

Voluntary boarders.—There seems to be no valid reason why similar facilities for the admission of voluntary boarders to private, county, and district asylums should not be extended to Ireland by legislation on the same lines that operated in England and Scotland.

An alternative legal designation, such as "county" or "borough mental hospital," might be arranged as in England.

Discharge.—Legislation should enable the resident medical superintendent to discharge patients for a prolonged period "on probation," and provide that such patients or their custodians should receive the grant-in-aid until such time as their names would be removed from the asylum register as "discharged."

Transfer.—Subject to an agreement between the committees of management of the asylums concerned, with the concurrence of the next-of-kin (if any), the Commissioners should have the power on the recommendation of the resident medical superintendent to transfer patients from one asylum to another for such a period as may be arranged, and renewed, if necessary, from time to time.

Deportation.—An Act should be introduced to extend to Ireland the provisions of the Act of Settlement in the matter of Deportation of Lunatics.

(2) POINTS BEARING ON THE INSTITUTIONS.

Establishment of Out-clinics—Paying Patients' Department—Affiliation with a Central Laboratory for Research—Affiliation with Special "Out-clinics" (Tuberculosis, Dental and Venereal)—Compulsory Acquisition of Lands for Asylum Farms—Reform as to the Granting and Removal of Licenses to Private Asylums—Need of Increased "Grant-in-Aid."

Out-clinics.—In connection with each asylum, consulting rooms should be provided (arrangements might be made for the use of the existing dispensaries)

where voluntary patients would get free advice from one of the asylum medical officers at certain stated times.

Paying patients' department in district asylums.—The committee of management should be empowered to have in each asylum a ward or division restricted for the use of patients paying *full cost* of maintenance, in which such patients would receive special dietary and clothing when not under treatment in the hospital division. Such a step would be the means of securing larger contributions for many patients than at present, when no differentiation is made between the paying, partially paying and non-paying patients.

The establishment of central laboratory for pathological research in mental and nervous disease.—Pathological research in insanity is lamentably lacking, and the optional clause in the Lunacy (Ireland) Act, 1901, relative to the support of such a laboratory should be made mandatory on county councils and a contribution levied from them, which, in addition to State grant from sums provided for pathological research, would suffice to set up a central laboratory in which the assistant medical officers of asylums should be required to attend during part of their study leave to study under the director's guidance.

Special out-clinics.—If tubercular, dental and venereal out-clinics are set up by the Public Health Acts, these clinics should be made available for the treatment of such patients in district asylums as, in the opinion of the resident medical superintendent, would be suitable cases for investigation and treatment.

Compulsory acquisition of lands for asylum purposes.—As asylum farms supply the institutions with food, etc., at first cost of production, and are a very great help to economical management and of importance to the well-being and improvement of the patients, it would be desirable that committees of management, subject to the concurrence of the Commissioners, should be empowered to acquire such lands as they may require approximate to or within easy distance of the institutions, under somewhat the same terms as lands can be taken for the purposes of the Labourers (Irel.) Acts. At present committees shrink from competition with the public.

Licence reform in case of private asylums.—The existing procedure has been compared as similar to that of the granting of ordinary publicans' licences, and licences should only be granted or renewed by the Lord Chancellor on the recommendation of the Lunacy Commissioners. Such licences should not be given unless the applicant undertakes to arrange for the insane no less medical care than is expected for the insane poor. No establishment for the insane should be without at least one resident medical practitioner.

Need of a subsidiary "grant-in-aid" from the Consolidated Fund.—The transfer of the 4s. "grant-in-aid" from the Consolidated Fund (under the provisions of the Local Government (Ireland) Act, 1898) eventuated in a considerable loss to the Irish district asylums, as has been repeatedly pointed out by the committees, who feel that they have a very real grievance under that head. As the "grant-in-aid" was originally given as a moiety of relief to the cost of maintenance, which of late years has nearly trebled, it would be but quite equitable to increase the grant proportionately to the existing high cost. A subsidiary grant from a non-fluctuating source should be given to make up such deficiency of the 4s. grant as may arise each year, and at the same time extra grant should be given in relief of the local rates. It is certain that for many years the cost of maintenance will be far in excess of any pre-war cost, and it would not be too much to ask the State to give a grant of 10s. per head weekly, particularly as there are so many senile cases in lunatic asylums, who would be entitled to that extent of State relief under the Old Age Pension Act had they not become insane. It must be remembered also that practically all the patients in district asylums would, if not insane, be the recipients of State relief under other Acts, such as State Insurance, etc.

(3) POINTS PRIMARILY AFFECTING ASYLUM OFFICIALS.

Qualification of Medical Officers—Special Study by Assistant Medical Officers—Training of the Attendant Staff—Amended Terms of Superannuation.

The medical qualifications of medical officers.—The enactments of the Local Government Act of Ireland, 1898, with reference to the qualifications and mode of

election of asylum medical officers (61 and 62 Vic., Cap. 37), should be retained. In the case of assistant medical officers they should be amplified. Newly appointed assistant medical officers should be compelled to take out some recognised special qualification in mental disease. In the interests of the insane the functions of the resident medical superintendents as the chief executive officials should be accurately defined and safeguarded. In the event of legislative changes provision should be introduced for safeguarding the asylum officials.

Study leave and salaries of assistant medical officers.—The assistant medical officers, all of whom in a limited service cannot hope to attain senior rank, should be placed on such terms as would enable them to keep up with general medical progress, and, if they so desire, to retire after a certain term of years, receiving a compounded gratuity estimated on their pensionable service. Meantime their salaries should be such as to enable them to marry, and they should be provided with suitable residence or rent in lieu thereof. The assistant medical officer, or, if more than one, the senior, should be entitled "deputy resident medical superintendent."

In connection with the foregoing suggestions the question of converting the asylum service into a national service might well receive consideration. Weighty arguments have been brought forward in support of this in the cases of the Poor Law service, and on grounds of efficiency might be argued with greater force regarding the asylum service.

Training of attendant staff.—Too much importance cannot be placed on methods to secure efficient attendant staffs, consequently the Commissioners should lay down such rules as to training and examination as would be calculated to secure men and women well fitted for their responsible task. It should be obligatory on committees to see that such rules are carried into effect. The staffs should be divided into two classes—"probationary" and "qualified or trained." Permanent appointments should be made only from the latter class, with due regard to age, health and general character.

Need of amendments to Asylum Officers' Superannuation Act.—In view of the fact that the terms of the Asylum Officers' Superannuation Act, 1909, were framed when the value of money was very considerably higher than the current rates, the Act requires amendment which was sought for even before the war, *viz.* the term of ten years' service, that on which the calculation for pension has to be made under the terms of the Act, should be reduced to five at most. Superannuation on the present terms would in some grades be altogether inadequate to meet the cost of subsistence.

(4) "AUXILIARY ASYLUMS" AND "BOARDING OUT."

Auxiliary asylums.—In the event of any other system for dealing with the so-called "harmless insane" being considered necessary, as, for example, in "auxiliary asylums" as proposed in the Local Government (Ireland) Act, the Irish Division of the Medico-Psychological Association is of opinion that any measure of success likely to be met with would be in the direction of creating such auxiliaries as special "departments" of the existing "district asylums." The combination of the establishment charges, the facilities for the more specialised treatment of the insane and the utilisation of an experienced resident medical staff would secure the most efficient and economical results. In many places the necessary accommodation would be secured by the adaptation of buildings in the neighbourhood of the asylum; many country mansions are now in the market.

"Boarding out."—The legislation necessary to permit of a trial of "family care" should certainly be enacted. Though there is much against its general success at the moment, yet at a time when domestic service is an acute problem, many patients might be located in suitable surroundings with advantage to themselves and their custodians. This applies more particularly to the agricultural class, which comprises the vast majority of district asylum patients. The wave of moral degradation which at present sweeps industrial centres renders the application of the scheme unsuited to them for the time being.

In conclusion the Irish Division of the Medico-Psychological Association desire

to reiterate in the strongest terms their conviction that a strong Lunacy Commission is essential to the efficient administration of everything connected with the care and treatment of the insane. They urge the constitution of such a Commission, and the enactment of legislation on the matters dealt with in this memorandum, giving the necessary legal machinery to initiate the many urgent reforms so long needed for the betterment of the insane and the general well-being of the community at large.

MENTAL DISORDERS: STUDY AND TREATMENT IN EARLY STAGES.

PSYCHIATRIC CLINICS.

To the Editor of the Times.

SIR,—Permit us through the medium of your columns to draw attention to the urgent need of reform in the methods of dealing with disorders of the mind in this country. The insane are still dealt with under the provisions of the Lunacy Act, 1890. In 1914 the Medico-Psychological Association of Great Britain and Ireland, after careful inquiry into the status of British Psychiatry, urged reforms in the methods of treatment of incipient mental disease, and the provision of facilities for study and research. In November, 1918, this Association adopted a report of a sub-committee appointed to consider the amendment of the existing lunacy laws. This report states that there are very few facilities for patients who are threatened with mental breakdown to obtain skilled treatment until they are placed under certificates under the Act, whereas the early symptoms of disorder often occur long before certification is possible; that, owing to treatment being delayed, the most valuable time for adopting measures to secure early recovery is lost; that the public, which is alive to the material and moral damage which certification often inflicts on the patient and his relatives, refuse to resort to it, even when it has become possible, and thus still further postpone the adoption of efficient treatment; that where certification has to be resorted to, the subsequent course of events often shows that this might have been avoided had there been facilities for treatment under other conditions; that many medical practitioners, having had no opportunity of gaining knowledge of the manifestations and treatment of mental disorders in their early stages, fail to recognise the seriousness of the condition, and are, further, deterred by the necessity of certifying the patient from advising suitable treatment.

The existing Lunacy Act, protecting, as it does, society, and safeguarding the liberty of the subject, allows insufficient scope for the treatment and cure of the patient.

The position—and we cannot believe that the public can be aware of it—is that a very large class of the community is debarred from obtaining advice and treatment (except such as can be given in an out-patient department, and even this provision is extremely rare), in the early stages of disease, and this owing to the operation of laws designed mainly with a view to protecting the interests of that class.

The proposals made by the experts composing this sub-committee to remedy the defects summarised correctly represent the view of all with practical knowledge of the subject. These aim at the provision of treatment in the early and curable stages of mental disorder without certification, which provision would be rendered possible by a short amending Bill to the Lunacy Act, embodying the reforms most urgently needed. The proposals are, in brief, as follows: The provision of clinics—the so-called psychiatric clinics—in large centres of population, and especially in connection with the general hospitals, and where schools of medicine exist; the extension of the system of voluntary admission (which now obtains in respect of licensed houses and registered hospitals for the insane), so that patients, whether of the private or rate-aided class, may place themselves for treatment in county borough mental hospitals; or further provision for the private patient class, so that, with the approval of the Board of Control, such may be

received without certification (but with the cognisance of the central authority) into homes, privately owned or supported wholly or partly by voluntary contributions, and also into existing public and private mental hospitals ("licensed houses"); also received, with the sanction of the board, as single patients, without certification, provided that a medical practitioner gives a written recommendation, stating that suitable treatment can be obtained in the proposed house.

Of the above proposals, that concerned with the establishment of clinics in psychiatry—with in- and out-patient departments—as an integral part of the general hospital system, is the most important. Our main hope of avoiding the never-ending extensions to existing asylums lies in the operation of these clinics. In this respect this country is deplorably backward as compared with other European countries, great and small, with the United States, and with some of the component parts of the British Empire. This is the more regrettable since it is in these clinics that students and the future holders of posts in mental hospitals should be taught and all available means of research be provided. For none of these purposes is the present "asylum" system adequate. In such clinics patients would be received without reception orders or certificates, and would be subjected to the minimum of official supervision; and on these lines they might be treated for a stated period—not less than six months. The late Dr. Henry Maudsley was the first to give practical expression to the urgent need for these clinics when, eleven years ago, he made his munificent gift—ultimately amounting to £40,000—to the London County Council, which rendered possible the erection of the Maudsley Neurological Hospital, Denmark Hill. This hospital has rendered most valuable service during the war in the treatment of patients and the instruction of medical officers. It is gratifying to think that Dr. Maudsley's wish, that his hospital should be used for the treatment of early cases of mental disorders, without certification, and for the teaching of psychiatry, is likely ere long to be realised.

In this connection it will be of interest to recall that in the case of mentally-disordered soldiers the Army authorities arranged, during the war, that they be received into military mental hospitals without any orders or certificates. These men were, in the first instance, not sent to their asylums until the mental disability had lasted for a period of nine months and was deemed incurable; later it was decided that this step should be taken after observation and treatment for such an extended period as was necessary to form the opinion that recovery was unlikely. Large numbers of the men were received in very early phases of the disease. The immense boon and solace this wise step conferred upon the patients and their relatives are best known to those physicians who have been connected with these hospitals. If these men could be treated thus whilst in khaki, they could, and should, be similarly treated as civilians, and under far better medical conditions than in asylums. The war has in this, as in other instances, been a means of education.

The necessity of carrying out the reforms above outlined has been repeatedly urged in the leading organs of the medical profession. That the Board of Control, the central authority in matters appertaining to the insane, is well aware of the pressing need for them is sufficiently shown by the recommendations contained in its fourth and fifth annual reports for the years 1917 and 1918. From the latter it appears that the Board has submitted to the Lord Chancellor and the Secretary of State the heads of a Bill, with a recommendation that it should be introduced into Parliament at the earliest practicable date, and be pressed forward as a measure of urgent importance to the health and welfare of the people. In October, 1918, a deputation representing the National Council of Mental Hospital Authorities was received at the Home Office, and it was abundantly clear that that Department was in sympathy with the representations made with a view to these reforms. Up to the present time, however, we have no evidence that any step whatever has been taken to the desired end.

We believe it to be the fact that in the present Parliament there are a number of medical men and others interested in this matter, and there is a reasonable hope that such a Bill would meet with sympathy and a swift passage into law.

We would, therefore, earnestly appeal to you to lend your powerful support in this matter, so that the introduction by the Government of the legislation necessary to facilitate, on the lines indicated, the early treatment of mental and allied

nervous disorders may be no longer delayed, and a grievous injustice to a very large class of suffering humanity may be removed.

We are, Sir,

Your obedient servants,

PONTYPRIDD.
 THOMAS BARLOW.
 CLIFFORD ALLBUTT.
 G. H. SAVAGE.
 FREDERICK W. MOTT.
 ROBERT ARMSTRONG-JONES.
 JOHN LYNN-THOMAS.
 W. McDougall.
 CHARLES S. MYERS.
 G. ELLIOT SMITH.
 R. PERCY SMITH.
 BEDFORD PIERCE.
 ROBERT B. WILD.
 DAVID DRUMMOND.
 A. H. TROW.
 M. THOMAS.
 E. GOODALL.

Times, February 6th, 1920.

MENTAL DISORDERS.

To the Editor of the Times.

UNIVERSITY OF EDINBURGH.

SIR,—As one living under different and happier laws than the writers of the letter on the above subject, I desire to point out that in Scotland mentally deranged patients who have means, or whose friends can pay for their support, are able at the present time to receive curative treatment in any house or home without being certified to be insane and without being sent to any asylum. Insane patients are accordingly often sent by physicians from England to Scotland to benefit in this way by the kindly provisions of its considerate system of laws, and to avoid the stigma of certification as a lunatic or detention in an English asylum while undergoing curative treatment. These powers have existed in Scotland for half a century, and after such a prolonged and completely successful experiment there should be no hesitation in conferring similar privileges on the people of England, and in removing not only an invidious but what is to many sensitive persons and families a most cruel anomaly.

I have, in the second place, to point out to reformers of the lunacy laws that something more requires to be done than the mere repeal of laws that obstruct reform and the enactment of others that confer new powers; there is also the question of financial aid. In Scotland we possess practically all the powers the signatories desire, but the voluntary treatment of the poor—that is, the State-aided or parochial class—is for practical purposes a dead letter for this peculiar reason: that a grant in aid is given by the State for the maintenance of any person who is certified to be a lunatic, but this grant is withheld, although the patient be treated on similar medical lines, if he or she be not certified insane. Human nature being what it is, this is a cause of delay in obtaining treatment, and it encourages the certification of the patient as a lunatic for the sake of the Government grant, rather than treatment without certification.

The objects desired by the signatories have the sympathy of everyone engaged in the care of the mentally afflicted. Our legislators may grant the powers asked for with an easy mind, as they have existed in Scotland for over 50 years and they have not been abused. Lastly, the financial problems connected with these admirable ideals must be carefully worked out, otherwise the powers, if granted, may be found worthless in practice.

I am,

Yours sincerely,

GEORGE M. ROBERTSON,
Professor of Psychiatry.

Times, February 12th, 1920.

THE REPROACH OF PSYCHIATRY IN ENGLAND.

Of all the branches of medicine psychiatry seems still to suffer from that relative neglect and to labour under those disadvantages which tradition assigns to the lot of the youngest sister. From time to time the calm of apparent stagnation is ruffled by some breeze of public agitation seeking to direct attention to defects, administrative or otherwise, yet such superficial disturbance bears little proportion to the immense undercurrent of dissatisfaction running strongly, within the profession itself, in the minds of all who have the interests of psychiatry in England at heart. If we inquire the reasons of this they are found to reside in a combination of factors on which stress has been laid repeatedly, with as yet little obvious result. It is imperative that the *fons et origo* of the dissatisfaction, which percolates through all the strata of asylum life, should be clearly laid bare, else the stream will continue to run muddily. It will, we believe, be granted that the scientific health of the asylum unit—that is, of the medical staff—takes its tone from the superintendent; should he be keen on the advancement of psychiatric learning, his subordinates find themselves in a stimulating atmosphere, the influence of which is reflected in the actual treatment of the inmates, as well as in the contributions from the staff to the body of psychiatric doctrine. On the other hand, if the senior has been selected more for social than for scientific equipment, or should he allow himself to be more concerned with the asylum laundry or meat-supply than with the healing of the mind, not only is the general scientific level of the institution lowered, but any junior medical officer is only too apt to find his youthful enthusiasm starved in an uncongenial environment; he sinks to the humdrum level of those with whom he is inevitably in such close association. The asylum officer who can rise superior to depressing surroundings is the exception. We should be the last to belittle the importance of social and administrative gifts in the smooth running of the asylum communities of the country, which from their very nature must be self-contained and self-sufficient, but psychiatry exists as a branch of medicine for the prevention and cure of mental disease, and nothing can ever be permitted to usurp this function. No elaborate schemes of internal decoration, no ingenuity of kitchen appliances, no perfectly fitted miniature theatres or admirably supplied gardens, farms and piggeries, can make up for indifference to clinical and pathological reports, neglect of modern technique in treatment, or absence of stimulus to increase the annual percentage of cures or relief.

The promotion or advancement of a medical officer, further, sometimes seems to depend so little on his professional knowledge that he has scant inducement to devote himself to an earnest study of the subject. His work is too often seen to begin and end with the discharge of routine—essential duties which fatigue without stimulating—and with the accomplishment of which any incentive to personal research vanishes. When he has time to think over things he fully realises the tremendous material at his disposal, the fascination of the study of the complex case, the therapeutic problems with which he is surrounded, yet evening finds him unable or disinclined to sit down to serious work. There is, however, another reason for the paucity of scientific output. Friendly conversation with the average asylum medical officer has often elicited the confession that he does not know how or where to begin his task; he is conscious of not being abreast of knowledge in many instances, and is sorely in lack of a guiding and advising mind. If this position be analysed it will be seen to derive from the fact that so few centres for the organised teaching of psychiatry exist, and the equipment of some leaves much to be desired. Of how many of our asylum officers can it be said that they have attended courses of theoretic and practical psychiatry at home or abroad? When do they get a four or six weeks' leave of absence to follow post-graduate instruction in their life's work at a recognised centre? Nay, how many of them have ever spent an unforgettable Wanderjahr in foreign school or laboratory prior to their entering on their professional career of psychiatric expert? Not that foreign experience of itself confers a *cachet* unobtainable at home, for our home material, in no way inferior, is calling out for investigation and research; but as long as our young medical officers drift untrained into asylum work, so long will the reproach continue that in this country psychiatry is not adequately studied.

On other occasions we have spoken of the peculiar restrictions and handicaps of

certain phases of asylum life for the junior staff; we are more concerned for the present to appeal emphatically for better chances for training, better facilities to keep abreast of scientific advance, greater endeavour to make the first step on the ladder encouraging, more serious efforts to utilise precious time and valuable staff. Is it too much to hope that the authorities who control asylum affairs should one day claim a certain standard of professional attainment on the part of medical officers entering the service, and insist similarly on granting members of asylum staffs post-graduate leave? We are confident that the outlook is bright in reality, and that the stirring among what only the cynic would call the dry bones augurs well for the future. We can imagine a central authority fully conversant with the best methods employed in the whole range of the practice of psychiatry, and able to give local bodies information and guidance as to management, equipment, and expectation of output on the scientific side no less than on the others; we can foresee the day when prophylaxis and prevention will be elevated to their true importance by the establishment of clinics and observation wards staffed by trained men with all-round experience. The problem confronting us is the elaboration of the best way to organise and utilise the sources of psychiatric energy which, we are convinced, are only waiting to be tapped.—*Lancet*, March 6th, 1920.

NURSES REGISTRATION ACT, 1919. ENGLAND AND WALES.⁽¹⁾

9 & 10 GEO. 5, CH. 94. 23rd December 1919.

1.—(1) For the purposes of this Act, there shall be established a General Nursing Council for England and Wales (in this Act referred to as "the Council"), which shall be a body corporate by that name with perpetual succession and a common seal with power to acquire and hold land without licence in mortmain.

(2) The Council shall be constituted in accordance with the provisions contained in the Schedule to this Act.

(3) The seal of the Council shall be authenticated in the prescribed manner and any document purporting to be sealed with the said seal so authenticated shall be receivable in evidence of the particulars stated in that document.

2.—(1) It shall be the duty of the Council to form and keep a register of nurses for the sick in this Act referred to as "the register") subject to and in accordance with the provisions of this Act.

(2) The register shall consist of the following parts:—(a) a general part containing the names of all nurses who satisfy the conditions of admission to that part of the register: (b) a supplementary part containing the names of male nurses: (c) a supplementary part containing the names of nurses trained in the nursing and care of persons suffering from mental diseases: (d) a supplementary part containing the names of nurses trained in the nursing of sick children: (e) any other prescribed part.

Where any person satisfies the conditions of admission to any supplementary or prescribed part of the register, his name may be included in that part of the register notwithstanding that it is also included in the general part.

(3) A certificate under the seal of the Council duly authenticated in the prescribed manner stating that any person is, or was at any date, or is not, or was not at any date, duly registered under this Act shall be conclusive evidence in all courts of law of the fact stated in the certificate.

(4) Any reference in this Act to the register shall, unless the context otherwise requires, be deemed to include a reference to any part of the register, and the expression "registered" shall be construed accordingly.

3.—(1) The Council shall make rules for the following purposes:—(a) for regulating the formation, maintenance and publication of the register; (b) for regulating the conditions of admission to the register; (c) for regulating the conduct of any examinations which may be prescribed as a condition of admission to the register, and any matters ancillary to or connected with any such examinations; (d) for prescribing the causes for which, the conditions under which, and the manner in which nurses may be removed from the register, the procedure for the restoration to the register of nurses who have been removed therefrom, and the fee to be payable on such restoration; (e) for regulating the summoning

of meetings of the Council and the proceedings (including quorum) of the Council; (f) for enabling the council to constitute committees and for authorising the delegation to committees of any of the powers of the Council, and for regulating the proceedings (including quorum) of committees; (g) generally for making provision with respect to any matters with respect to which the Council think that provision should be made for the purpose of carrying this Act into effect (including provision with respect to the issue of certificates to nurses registered under this Act and with respect to the uniform or badge which may be worn by nurses so registered), and for prescribing anything which under this Act is to be prescribed.

(2) Rules under this section shall contain provisions—(a) requiring as a condition of the admission of any person to the register that that person shall have undergone the prescribed training, and shall possess the prescribed experience, in the nursing of the sick; and (b) requiring that the prescribed training shall be carried out either in an institution approved by the Council in that behalf or in the service of the Admiralty, the Army Council, or the Air Council; and (c) enabling persons who, within a period of two years after the date on which the rules to be made under the provisions of this paragraph first come into operation, make an application in that behalf (in this Act referred to as “an existing nurse’s application”), to be admitted to the register on producing evidence to the satisfaction of the Council that they are of good character, are of the prescribed age, are persons who were for at least three years before the first day of November, nineteen hundred and nineteen, *bonâ fide* engaged in practice as nurses in attendance on the sick under conditions which appear to the Council to be satisfactory for the purposes of this provision and have adequate knowledge and experience of the nursing of the sick.

(3) Rules made under this section shall not come into operation unless and until they are approved by the Minister of Health.

(4) Every rule made under this section shall be laid before each House of Parliament forthwith, and, if an Address is presented to His Majesty by either House of Parliament within the next subsequent twenty-one days on which that House has sat next day after any such rule is laid before it praying that the rule may be annulled or modified, His Majesty in Council may annul or modify the rule, and, if annulled, it shall thenceforth be void, and, if modified, it shall thenceforth have effect as so modified, but without prejudice to the validity of anything previously done thereunder.

4.—(1) The Council may, with the previous sanction of the Minister of Health, appoint a person to act as registrar of the Council, and may, subject to the consent of the Minister as to numbers, employ such other officers as the Council consider necessary.

(2) There shall be paid to the registrar and the officers of the Council such salaries or remuneration as the Council with the approval of the Minister of Health may from time to time determine.

(3) Any expenses incurred by the Council in carrying this Act into effect, including expenses in connection with examinations or prosecutions under this Act and, subject as hereinafter provided, the travelling expenses of and sums paid on account of subsistence allowance to members of the Council, shall be defrayed out of the sums received by the Council by way of fees under this Act:

Provided that the amount to be allowed to members of the Council in respect of travelling expenses and subsistence allowance shall be calculated in accordance with directions to be given by the Minister of Health.

(4) The accounts of the Council shall be audited in such manner, and by such person, as the Minister of Health may from time to time direct, and copies of the accounts, and of any report made on the accounts, shall be transmitted by the Council to such persons as the Minister may direct.

5.—(1) There shall be paid to the Council in respect of every application to be examined or to be registered under this Act, and in respect of the retention in any year of the name of any person on the register, such fees respectively as the Council may, with the approval of the Minister of Health, from time to time determine:

Provided that—(a) in the case of an existing nurse’s application the amount of the fee payable on the application shall be such sum, not exceeding one guinea, as the Council, with such approval as aforesaid, may determine; and (b) the amount

of the fee payable in respect of the retention in any year of the name of any person on the register shall not exceed two shillings and sixpence.

(2) The Council may charge for any certificate or other document issued, or in respect of any services performed, by them, such fees as may be prescribed.

6.—(1) Any person who proves to the satisfaction of the Council that he has been registered either generally as a nurse for the sick or as a nurse of some special class in any part of His Majesty's dominions outside the United Kingdom, being a part of those dominions to which this section applies, shall be entitled, on making an application in the prescribed manner and paying such fee, not being greater than the fee payable on ordinary applications for registration under this Act, as the Council may demand, to be registered in a corresponding manner under this Act.

(2) This section applies to any part of His Majesty's dominions as respects which the Council are satisfied—(a) that there is in force therein an enactment, or a provision of any kind having the force of law, providing for the registration of nurses under some public authority; (b) that persons registered under this Act are admitted to the register established under the said enactment or provision on terms not less favourable than those contained in subsection (1) of this section and (c) that the standard of training and examination required for admission to the register of nurses established under the said enactment or provision is not lower than the standard of training and examination required under the Act.

(3) In the event of provision being hereafter made for the establishment of a register of nurses in Scotland or Ireland, the Council shall make rules under this Act enabling persons registered as nurses in Scotland or Ireland, as the case may be, to obtain admission to the register of nurses established under this Act; and, with a view to securing a uniform standard of qualification in all parts of the United Kingdom, the Council shall, before making any rules under this Act with respect to the conditions of admission to the register, consult with any Nursing Councils which may be established by Parliament for Scotland and Ireland respectively.

7.—(1) Any person aggrieved by the removal of his name from the register may, within three months after the date on which notice is given to him by the Council that his name has been so removed, appeal against the removal in manner provided by rules of court to the High Court, and on any such appeal the High Court may give such directions in the matter as it thinks proper, including directions as to the costs of the appeal, and the order of the High Court shall be final and conclusive and not subject to an appeal to any other court.

(2) Any person aggrieved by the refusal of the Council to approve any institution for the purpose of the rules under this Act relating to training may appeal against the refusal to the Minister of Health, and the Minister, after considering the matter, shall give such directions therein as he thinks proper, and the Council shall comply with any directions so given.

8.—(1) Any person who—(a) not being a person duly registered under this Act, at any time after the expiration of three months from the date on which the Minister of Health gives public notice that a register of nurses has been compiled under this Act, takes or uses the name or title of registered nurse, either alone or in combination with any other words or letters, or any name, title, addition, description, uniform, or badge, implying that he is registered under this Act or is recognised by law as a registered nurse; or (b) being a person whose name is included in any part of the register, at any time after the expiration of the period aforesaid takes or uses any name, title, addition, description, uniform or badge, or otherwise does any act of any kind, implying that his name is included in some other part of the register; or (c) at any time with intent to deceive makes use of any certificate of registration as a nurse issued under this Act to him or any other person, shall be liable on summary conviction to a fine not exceeding, in the case of a first offence, ten pounds, and in the case of a second or any subsequent offence fifty pounds.

(2) If any person wilfully makes, or causes to be made, any falsification in any matter relating to the register, he shall be guilty of a misdemeanour and shall, on conviction thereof, be liable to a fine not exceeding one hundred pounds.

9.—(1) This Act shall not extend to Scotland or Ireland.

(2) This Act may be cited as the Nurses Registration Act, 1919.

SCHEDULE.

Constitution of Council.

1. The Council shall consist of twenty-five members.
2. On its first constitution the Council shall be composed of the following persons, namely:
 - Two persons, who shall not be registered medical practitioners, or nurses, or persons concerned with the regular direction or provision of the services of nurses, appointed by the Privy Council:
 - Two persons appointed by the Board of Education:
 - Five persons appointed by the Minister of Health, after consultation with persons and bodies having special knowledge and experience of training schools for nurses, of the work of matrons of hospitals, of general and special nursing services, and of general and special medical practice:
 - Sixteen persons, who are or have at some time been nurses actually engaged in rendering services in direct connection with the nursing of the sick, appointed by the Minister of Health after consultation with the Central Committee for the State Registration of Nurses, the College of Nursing, the Royal British Nurses' Association, and such other associations or organised bodies of nurses or matrons as represent to the Minister that they desire to be consulted in the matter.

The Minister, in making appointments under this provision, shall have regard to the desirability of including in the Council persons having experience in the various forms of nursing.
3. The first members of the Council shall hold office for such term, not less than two years and not exceeding three years from the commencement of this Act, as the Minister of Health may determine.
4. After the expiration of the term of office of the first members of the Council, the Council shall be composed of nine persons appointed respectively by the Privy Council, the Board of Education, and the Minister of Health as aforesaid, and of sixteen persons, being persons registered as nurses under this Act, elected in accordance with the prescribed scheme and in the prescribed manner by the persons so registered at the date of election.
5. Any members of the Council other than the first members thereof shall hold office for a term of five years.
6. If the place of a member of the Council becomes vacant before the expiration of his term of office whether by death, resignation, or otherwise, the vacancy shall be filled by appointment by the body or persons by whom the member was appointed, or if the vacating member was an elected member by the Council.
- The Council in co-opting a member under the foregoing provision shall, so far as practicable, select a person, being a person registered as a nurse under this Act, who is representative of the same interests as those represented by the vacating member.
- Any person appointed or elected to fill a casual vacancy shall hold office only so long as the member in whose stead he is appointed or elected would have held office.
7. Any member ceasing to be a member of the Council shall be eligible for re-appointment or re-election.
8. The powers of the Council may be exercised notwithstanding any vacancy in their number.

(1) The Nurses Registration (Scotland) Act, 1919, will be printed in the July number.

LONDON COUNTY COUNCIL.

LECTURES AND PRACTICAL COURSES OF INSTRUCTION AT THE MAUDSLEY HOSPITAL, DENMARK HILL, S.E. 5, FOR A DIPLOMA OF PSYCHOLOGICAL MEDICINE, 1920.

Part I.

1. Twelve Lectures on the Anatomy of the Nervous System. By Sir Frederick Mott, K.B.E., M.D., LL.D., F.R.S., F.R.C.P.
- Practical Instruction and Demonstrations. (8 Sessions of two hours each.)

2. Twelve Lectures on the Physiology of the Nervous System. By F. Golla, M.D., F.R.C.P., Physician, St. George's Hospital.

Practical Physiology. (10 Sessions.) By F. Golla, M.D., F.R.C.P. (The Object of this Course is to put students in possession of such methods as might be employed in minor research work in mental diseases.)

3. Ten Lectures on Psychology. By J. V. Lowson, M.A., M.D. Edin., Demonstrator of Psychology, University of Cambridge.

Practical Psychology. Practical Work and Demonstrations. (8 Sessions.) By J. V. Lowson, M.A., M.D. Edin.

Part II.

1. Twelve Lectures on the Diagnosis, Prognosis and Treatment of Mental Diseases. By C. Hubert Bond, D.Sc., M.D., F.R.C.P.

2. Two Lectures on Crime and Responsibility. By Sir H. Bryan Donkin, M.D., F.R.C.P.

3. Two Lectures with Demonstrations of Cases on the Practical Aspect of Mental Deficiency. By F. C. Shrubbsall, M.D., F.R.C.P. (Principal Assistant Medical Officer, Public Health Department, L.C.C.)

4. Six Lectures on the Pathology of Mental Diseases including Brain Syphilis, its Symptomatology and Treatment, with Demonstrations. By Sir F. W. Mott, K.B.E., M.D., F.R.S.

5. Eight Lectures on the Psychology of Conduct. By William MacDougall, M.A., M.D., F.R.S.

6. Twelve Clinical Demonstrations in Neurology. By F. Golla, M.D., F.R.C.P., and Sir Frederick Mott, K.B.E., M.D., F.R.S.

7. Six Lectures on the Psychoneuroses. By Bernard Hart, M.D. (Physician Mental Disease University College Hospital, Lecturer in Mental Disease, University of London).

Fees.

| | £ | s. | d. |
|--|----|----|----|
| For the Whole Course of Part I and Part II | 15 | 15 | 0 |
| For Part I separately | 10 | 10 | 0 |
| For Part II separately | 10 | 10 | 0 |
| For either Group 1 or Group 2 of Part II | 5 | 5 | 0 |

(Group 1 consists of Sessions 1, 2, 3, 4; Group 2 consists of Sessions 5, 6 and 7.)

Applications for forms of admission to the Course should be made to the Asylums Officer, 13, Arundel Street, Strand, W.C. 2.

The Fellowship of Medicine, 1, Wimpole Street, W., will collect fees from, and issue admission tickets to, medical men intending to take the course, who are introduced by the Fellowship.

LIBRARY FOR DEAF EDUCATION.

IN connection with the Ellis Llwyd Jones Lectureship for Training Teachers of the Deaf, recently established at the University of Manchester through the benefaction of Sir James E. Jones, the Carnegie United Kingdom Trust has generously granted to the University the sum of £2,500 for the foundation and maintenance of a Library for Deaf Education. It is intended to make this Library as comprehensive as possible, and to include in it works dealing with the various systems of teaching the deaf—speech training, psychology of speech and hearing, phonetics, acoustics, anatomy, physiology, and diseases of the ear. The books are to be available to all individuals, societies and institutions throughout the United Kingdom interested or concerned in the education and training of the deaf, and they will be ready for consultation and borrowing immediately after Easter, 1920.

No charge, beyond the cost of carriage, is made for the loan of books, but intending borrowers are required to fill in a form of application to be obtained from "The Librarian, Library for Deaf Education, The University, Manchester."

(Signed) CHAS. LEIGH,
Librarian.

OBITUARY.

DR. EDWIN LINDSAY DUNN,

Late Medical Superintendent of the Berkshire Asylum, Wallingford.

I FEEL great diffidence in writing the obituary notice of Edwin Lindsay Dunn, for I realise how inadequate is my pen to do full justice to the task. The son of the late Mr. Robert Dunn, of Dunfield, Waterside, Ireland, he was born in 1865 and received his early education at Foyle College, Londonderry, winning a scholarship in 1876. The examiner on that occasion was Mr. J. H. M. Campbell, then Scholar and Senior Moderator of Trinity College, Dublin, who reported on "the splendid answering in every subject of Dunn." He thus gave evidence, even at so tender an age, of those remarkable talents which characterised his more mature years. His school career was throughout most brilliant, and after being an Intermediate Exhibitioner 1879-1880 and a Matriculation Exhibitioner, R.U.I., 1881, he entered Trinity College, Dublin, as First Junior Exhibitioner in 1882. There he continued his successful career, taking his B.A. degree with Honours in Classics and English Literature. He then decided upon medicine as a profession, and after taking Honours in Anatomy, and incidentally holding the posts of Resident Pupil, Dr. Steevens' Hospital, Dublin, Clinical Clerk and Surgical Dresser, Sir P. Dun's Hospital, Dublin, and Prosecutor to the University Anatomist, he received the degrees of M.B., B.Ch. in 1887. He was later appointed Assistant House-Surgeon to the Children's Infirmary, Liverpool, Assistant Surgeon, Liverpool Dispensaries, and, upon adopting lunacy practice as a career, Assistant Medical Officer at the West Riding Asylum, Wakefield. At Wakefield Asylum he made several contributions to medical literature, including "Cases of Epilepsy Treated by Amylene Hydrate," "Case of Softening of the Sensory Tract of Internal Capsule," and "Case of Homonymous Hemianopsia." Dunn's paper on "Paranoia," read at the Psychology Section of the British Medical Association at Nottingham in July, 1892, was a noteworthy addition to our knowledge of that disease, although cases had been recognised in England before then. He was a member of the Medico-Psychological Association, a member of many years' standing of the British Medical Association, and a prominent member of the Reading Pathological Society. He was appointed Senior Assistant Medical Officer and Deputy Medical Superintendent of the Berkshire Asylum, Wallingford, in 1894, and on the death of Dr. Murdoch succeeded him as Medical Superintendent.

Outside his professional work, literature, Freemasonry and sport appealed most to him. At school he was a member of the Fifteen and a good runner, at Trinity College, Dublin, a prominent oarsman, rowing for the University Boat Club and winning many races, and a member of the University Fifteen. He also played for the famous Wanderers Club, but although well in the running for International honours was not capped for Ireland—a fact which always caused him keen regret. He was fond of shooting and golf, and a good fisherman, his proudest trophy being a fine Thames trout, scaling 7½ lbs., which he caught at Pangbourne.

Dunn was an enthusiastic Freemason, and was installed Worshipful Master of the St. Hilda Lodge, Wallingford, in 1890. He excelled as a raconteur and after-dinner speaker, and a speech he once made in aid of the Masonic Charities will live in the history of the St. Hilda Lodge.

He was extremely well-read, and could talk with knowledge, and in his own delightfully original way, on any subject. Politics, religion—his knowledge of the Bible was profound—science, sport, literature, nothing came amiss to him. He read Greek for pleasure, and was very fond of French literature.

He was a true Irishman, genial, quick-tempered, impulsive, generous to a fault, the soul of hospitality, extremely witty, excellent at repartee. I remember his once being stopped in Oxford by a particularly dirty tramp, who tried to sell him a cake of soap, and Dunn's reply, "I'm afraid you can't spare it, my man, but here's twopence for you." His laugh, apart from his sunny disposition and high spirits, was the most infectious thing about him. No one who ever heard it could readily forget it. He had a genius for making friends and for keeping them, and his red jovial face, merry blue eye and inimitable laugh will be sadly missed. The Visiting Committee of the Asylum were his personal friends; he was beloved by his patients and staff, to whom his sympathy, advice and help were always open.

A devoted son and brother, his mother's death a few years ago was a great blow to him. His own death occurred on January 12th, after several weeks of great pain and suffering borne with wonderful patience and fortitude. He was unmarried. He leaves a sister to mourn his loss, and to her I am indebted for much of the information here recorded.

P. C. COOMBES.

Dr. J. BARFIELD ADAMS.

The short illness and sudden death, at the age of sixty, of Dr. J. Barfield Adams on February 20th, 1920, while returning from some professional call, came as a great shock to his medical brethren in North Bristol, where he had practised in general medicine for over thirty-five years. About eight years previously he had had to take a rare and enforced holiday in Holland and Belgium and Northern France owing to a first attack of angina pectoris, but he returned to his duties quite as devotedly and almost as strenuously as before, and carried on ever since. Though he had repeated warnings of the same kind, and his heart must have latterly begun to fail seriously, none of us who saw him in the last few weeks and even on the day of his death, going about much as usual, had any suspicion of impending danger; the more so as he had always been a man of great reserve where he himself was personally concerned.

He received his medical education in the Edinburgh University and Extra Mural Medical School, and obtained the Edinburgh Triple Qualification in 1882. From the interest he took and the knowledge he displayed in matters medico-psychological I think he must have had asylum experience, though I have no record as yet as to where he did duty. For the last dozen years he held the responsible post of Medical Officer to the Bristol Colston's Girls' School. He became a member of the Medico-Psychological Association in 1913, and about the same time obtained the Certificate in Psychological Medicine of the Association. While his chosen life-work was to be a general medical practitioner of the best type, he was one of these medical men (all too few as yet) who take an intense interest in psychiatry as bearing on their daily work in medicine. Long and happily married, he left no children to mourn his loss.

In the last few years, and more especially during the war, he undertook regular work for the *Journal of Mental Science*, and contributed valuable critical epitomes of current medico-psychological literature, irradiating his views with sympathy, humour, and occasionally with gentle dissent. Himself a literary artist and a master of style, he also contributed two original delightful critical studies to the *Journal of Mental Science*, namely "Zola's Study of Heredity" (July, 1916), and a complementary "Zola's Studies in Mental Disease" (April, 1917). A discriminating admirer of one whom he dubbed "Master," he freely points out where he thinks Zola failed to be quite true to nature in some of his cameos of insane and degenerate characters. In a third contribution to the *Journal*, "The Orientation of Human and Animal Figures in Art" (October, 1917), he successfully broke new ground, revealing a wealth of erudition and a playfulness of humour worthy of De Quincey, combined with an insight into pictorial art, and a personal acquaintance with experimental pedagogics quite remarkable. In the same vein about the same time he contributed two essays on Zola to other journals entitled "The Doctors in Zola's History of the Rougon-Macquart Family," and "Dr. Pascal Rougon: Zola's Study of a Savant."

He told me once that after graduating he had toured on a bicycle throughout the highways and bye-ways of Northern France, with a view mainly to a study of French ecclesiastical architecture. Each cathedral was to him no mere local lion, but an organic whole, showing in the details of its structure within and without its own particular history and that of the ages it had weathered. He was a finished French scholar both in speech and in literary knowledge. In later years he took up the study of Italian ("The Doctors in the Decameron"), Spanish, and even Welsh ("Medicine and Surgery in the Mabimogion"). Whether he ever studied the "gentle German language" is not very apparent; if he did (as is possible) he allowed no pestilent whiff of latter-day Teutonic kultur to obscure his clear vision into Gallic *esprit*.

He took great pleasure in studying what Charles Reade called the "poor dear doctors" themselves (and incidentally some of their patients) as mirrored in literature, and more especially in that of his beloved France.

Others (friends and patients of this quiet, many-sided man), who knew him more intimately, could doubtless say much of him from their several points of view. It suffices here to say that to those of us, his professional brethren, who met him only occasionally on our daily rounds, he was a dignified, kindly man of the highest personal and professional ideals, wise in counsel, and a stimulating listener, who in any subject of conversation was willingly allowed to make the deciding judgment. One might apply to him the remarks he makes himself on one of his favourite characters in Zola, "the savant," Dr. Pascal Rougon: "He had a profound contempt for all that was mean or ignoble—the few who were admitted to his friendship loved him for his honesty and goodness of heart, and admired him for his devotion to work."

W. COTTON.

DR. ELMER E. SOUTHARD,

Bullard Professor of Neuropathology, Harvard Medical School.

THE death in New York on February 8th, 1920, from pneumonia after an illness of two days of Dr. Elmer E. Southard, of Cambridge, America, will be learned with much regret by readers of the Journal and members generally of the Medico-Psychological Association.

Dr. Southard was born in Boston on July 28th, 1876, and graduated in Arts at Harvard College in 1897, and at Harvard Medical School in 1902. After studying at Frankfort and Heidelberg he entered the City Hospital, Boston, as Interne and Assistant in Pathology in 1901, and three years later he became Instructor of Neuropathology at the Harvard Medical School. In 1906 he became Assistant Physician and Pathologist of the Danvers State Hospital, and in 1909 he was made Bullard Professor of Neuropathology at the Harvard Medical School and appointed Pathologist to the Massachusetts State Board of Insanity. Since 1912 he had been Director of the Boston Psychopathic Hospital. He was also Pathologist to the Massachusetts Commission on Mental Diseases. He was associate editor of the *Journal of Nervous and Mental Diseases* and assistant editor of *Epilepsia*. In 1917 he was attached to George Washington University, and during the war was a major in the Chemical Warfare Service.

He collaborated in the production of a recent work on *Shell Shock and Neuropsychiatry*, and made many valuable contributions on neuropathology and mental hygiene to current American psychiatry, and his wide knowledge and influence as regards these and allied subjects were recognised both at home and abroad.

The respect and trust his countrymen reposed in him is shown by the fact that he was a member of the Board of Associated Charities of Boston and of the American Academy of Arts and Sciences. He had been President of the Boston Society of Psychiatry and Neurology and President of the American Medico-Psychological Association.

He was stricken when fulfilling a series of important engagements before several medical bodies, and the day before had addressed the National Committee for Mental Hygiene at the Academy of Medicine, New York.

He was one of America's foremost amateur chess players and a member of St. Botolph and Boston Chess Clubs.

His loss was much mourned in America, and the memorial service held at Appleton Chapel, Cambridge, was attended by Harvard professors, students, members of the State Board of Health, and many others. He had reached the stage of maturity and greatest usefulness, and a brilliant future was before him. His great patterns were Prof. Royce and Prof. James, whose ideals were reflected in much that he did. An enthusiastic writer, with a cheerful and attractive personality, his whole thought was how best to serve humanity. It is for others now to continue in his footsteps, and his many friends and admirers, who owe so much to him, will see that his teachings are not lost to posterity but continued and amplified as if he were yet with them.

His helpmate in life was Dr. Mabel Fletcher Austin of Boston, whom he married in 1906.

J. R. L.

NOTICES OF MEETINGS.

ANNUAL MEETING.

THE Buxton Town Council have officially invited the Association to hold their Annual Meeting there this year, and the following is a short summary of the arrangements made:

Monday, July 26th.—Committees meet as early after lunch as members can arrive.

Tuesday, 27th.—Spent at Cheddleton. Committees, Council, etc., at 10 a.m. Lunch for ladies and members 1 p.m. Annual Meeting 2 p.m. Visit to silk mill at Leek or to pottery at Hanley in forenoon. Garden party 3.30 p.m. Annual Dinner, Buxton (members and ladies), 8.30. Motor char-a-bancs will be arranged for. Buxton to Leek 12 miles, south (rise and fall of over 1,500 ft. between), Leek to Cheddleton 3 miles, south.

Wednesday, 28th.—Scientific discussions, Town Hall, Buxton, 10 a.m. Half-day excursion for ladies in the forenoon. A reception may be arranged in the Town Gardens for the afternoon.

Thursday, 29th.—Full-day excursion to Haddon Hall and Chatsworth. If more papers are promised, so that a meeting on Thursday morning becomes desirable, half-day excursion will be arranged for Thursday afternoon, and the Haddon Hall excursion on Friday if members will stay, in view of the fact that the following Monday is Bank Holiday.

HOTEL ARRANGEMENTS should be made at Buxton *at once*, as the end of July is the height of the local season and lodgings become unobtainable.

The following hotel accommodation at Buxton is recommended: Palace Hotel, Crescent Hotel, St. Ann's Hotel, Buxton Hydro, Haddon Hall Hydro, Olivers Hydro, Sandringham Hotel, Milton House, Old Hall Hotel, Shakespeare Hotel, Pendennis, George Hotel, Pavilion.

DIVISIONAL MEETINGS.

South-Eastern Division.—May 5th, Littleton Hall, Brentwood, Essex.

South-Western Division.—April 23rd, Portsmouth Mental Hospital.

Northern and Midland Division.—April 29th, Mental Hospital, Middlesbrough.

Irish Division.—June 24th and November 4th, 1920; April 7th, 1921; July 7th, 1921.

NOTICE BY REGISTRAR.

Dates of Examination for Nursing Certificates.

| | | | | | | |
|-----------|---|---|---|---|---|--------------|
| May 3rd . | . | . | . | . | . | Preliminary. |
| " 10th | . | . | . | . | . | Final. |

REVIEWS.

The Editors regret that the notices of the Report of the Board of Control and Mental Hospitals and Asylums Reports generally are again unavoidably postponed.

NOTICE TO CONTRIBUTORS.

N.B.—The Editors will be glad to receive contributions of interest, clinical records, etc., from members (whether these have been read at meetings or not) for publication in the Journal. They will also feel obliged if contributors will send in their papers at as early a date as possible in each quarter.

Writers are reminded that, according to LIX(a) of the Articles of Association, "all papers read at the Annual, General, or Divisional Meetings of the Association shall be the property of the Association, unless the author shall have previously obtained the written consent of the Editors to the contrary."

Papers read at Association Meetings should not, therefore, be published in other Journals without such sanction having been previously granted.

THE
JOURNAL OF MENTAL SCIENCE
[Published by Authority of the Medico-Psychological Association
of Great Britain and Ireland.]

No. 274 [NEW SERIES No. 238.] JULY, 1920. VOL. LXVI.

Part I.—Original Articles.

The First Maudsley Lecture, delivered by Sir JAMES CRICHTON-BROWNE, D.Sc.Leeds, M.D.Edin., Hon. LL.D.St.And. and Aberd., F.R.S.Lond. and Edin., Lord Chancellor's Visitor in Lunacy, at the Quarterly Meeting of the Medico-Psychological Association of Great Britain and Ireland, held at the House of the Royal Society of Medicine, London, on May 20th, 1920.

GENTLEMEN,—I feel I owe the honour of having been selected to deliver this first Maudsley Lecture, not to any special fitness I possess to expone any of the more recent developments of that branch of medicine, the furtherance of which the lectureship is intended to promote, but to the fact that I am almost the last survivor of those who were associated with the founder of the lectureship in the early days of his professional career. While still a student at the University, Maudsley was revealed to me in a brilliant essay on Edgar Allan Poe, which was published in the *Journal of Mental Science* in April, 1860, and which, although too scathing and denunciatory of the ill-fated poet, as it now appears, was so rich in insight, originality and happy similitudes as to betoken unmistakably "the lighting of another taper at Heaven," which was at that time Maudsley's way of describing the arrival of a new man of genius on the scene. A few years later I made Maudsley's personal acquaintance at the table of that gracefully-refined and highly-gifted physician and philanthropist, Dr. John Conolly, who afterwards became his father-in-law, and in the years following I can recall many memorable meetings with him at "The Lawn," at Hanwell, in his rooms in Queen Anne Street, and in a restaurant in Soho, where, over frugal meals, he and I and Lockhart Robertson, and Broadbent and Harrington Tuke and Baron Mundy of Moravia, the zealous advocate of non-sequestration and family life and free air for the insane, held high discourse and adumbrated projects for the future of lunacy, some

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of which have taken shape since then, while others remain unrealised and perhaps unrealisable.

Maudsley's pathway and mine diverged physically after these racy and roseate London days, when my lot was cast in the provinces for a decade, and they diverged spiritually also, for he abandoned the teleological platform on which we both started and advanced into scientific materialism and agnosticism, where I could not then follow him. But whatever differences of conviction and outlook separated us, our friendship remained unbroken to the end. I cannot claim to have been one of what was, I believe, the very small circle of his intimates, but I was never estranged from him by quarrel or misunderstanding, and the admiration and esteem in which I held him never for a moment paled.

I have not the material for even a biographical sketch of Maudsley if I desired to present one to you, and any such sketch would be of only ephemeral and partial interest, for we shall, I trust, have, one of these days, an adequate record of a life prosperous and uneventful, but rich in fruitful endeavour and leaving a distinctive mark on the philosophical history of the latter half of the nineteenth century. An appreciation of Maudsley's achievements such as the time-limit here would permit is still less feasible, and would be somewhat superfluous after the generous and sympathetic but discriminating obituary notices which we owe to Sir George Savage and Sir Frederick Mott, and would, moreover, be out of place, for I am sure the last thing the donor of this lectureship, retiring and shy of publicity as he was, would have wished would be that its inaugural discourse should be devoted to any elaborate eulogy of himself. Let me just say of him that in every situation in life, in the domestic circle, in society, in the lecture-room, by the bedside, and in the witness-box he "gave the world assurance of a man," and of a man of a striking and unique personality, of keen and decisive intellect, and of a courageous and independent temper. Of tough Yorkshire fibre, deftly woven, Maudsley had in him a dash of the gloom and austerity of "Wuthering Heights," but that was lit up by the sunshine of a liberal culture and by genuine goodness of heart. He was cynical and sententious betimes, but the tartness of his tongue was belied by his genial smile, and the pessimism he preached was discounted by the charity he practised. Enemies he had, for he had no tolerance of fools, and was swift to castigate presumption and pretence. Dissentients from his teaching there were and must be many, for the sanguine revolt from the cheerless creed of man's helplessness and Nature's indifference, but on all hands he must be acknowledged as a force making for rectitude that powerfully affected the time in which he lived and that must far into the future stimulate the thoughts of man.

To discuss Maudsley's contributions to the physiology and pathology

of mind, which must constitute his great claim on the consideration of posterity, to disentangle what in these he derived from others—such as Herbert Spencer and Laycock and Van der Kolk and Morel and Darwin and Carlyle and Emerson—from his own acute observations and cogent reflections, would be an intricate task upon which I do not propose to enter, but in connection with the whole legacy he has bequeathed to mankind I would wish to say a few words about that portion of it which appertains to this lectureship and to the hospital which is to bear his name. It was no monumental craving, I am sure, that moved him to the endowment of either the one or the other, but an earnest desire to advance the interests of that special department of medicine which he had served so faithfully and to reduce the mass of human suffering.

In the lecture, which is to be alternately scientific and popular, he has devised a much-needed means of maintaining and extending the scope and usefulness of the Medico-Psychological Association, for the building up of which he did so much, and of conveying to those who stand outside our specialty and to the public generally some little knowledge of the work it is accomplishing. The nature of the medium in which we work and the legal restrictions under which that work is carried on have in the past kept us to some extent aloof from the main body of our profession, and but little has been known by the world at large of the polity of those somewhat insulated "cities of the simple" that now in such numbers stud the land. The consequence is that gross misconceptions of our status and performances are prevalent in some quarters, misconceptions to which we have ourselves in some measure contributed by our proclamation of grievances and calls for reforms, and to which, perhaps, the Maudsley lecture may prove henceforth an annual antidote.

Quite recently, in a book that has obtained wide circulation, Prof. Eliot Smith has drawn a painful picture of our situation. We are, it appears, backward and negligent to a shocking degree. The ignorance of our asylum medical officers of up-to-date knowledge in psychiatry is deplorable. Research is non-existent, our text-books are contemptible, our system of treatment does not conduce to recovery, and America, France, Germany and Switzerland have long ago faced the problems of mental disease which we have shirked.

Now Prof. Eliot Smith is, I know, zealous of many good works, and is no doubt eager to promote the best interests of the insane, but his attack on our specialty is, I venture to say, unjust and ill-informed, and it is evident that before making it he has not fully acquainted himself with the history of psychological medicine or with the writings of the founder of this lectureship and of contemporary alienists. I would recommend to him a careful study of the sixty-six volumes of the

Journal of Mental Science, and I am confident he will rise from their perusal satisfied that asylum medical officers have not lagged behind their profession generally, but have, in proportion to their number, and having regard to the arduous and time-absorbing routine duties imposed on them, produced more than their fair quota of sound, painstaking, progressive, scientific work. As regards the humane treatment of the insane, the nature of the asylum provision made for them, the investigation of their condition—psychical and corporeal—and the employment of remedies, medical and moral, for their relief, this country has nothing to fear from comparison with any other. In every march forward she has led the van. We are exhorted to look with envy at the spacious and well-appointed research laboratories attached to some asylums in Germany, and no doubt in that direction we have been somewhat distanced by developments in Germany and the United States, but it should be borne in mind that the first asylum research laboratory in Europe—small and humble it was, but still a research laboratory, in which experiments of high and permanent value were conducted—was established in connection with an asylum in England more than fifty years ago. Our Scottish asylums have been co-operating in laboratory work for thirty years, and in several asylums in England and Wales well-equipped laboratories exist which, now that the war is over, may be expected to yield a rich harvest.

No doubt in our department changes and reforms are necessary, but we have been the first to acknowledge it and to press for action. Greater freedom is needed in meeting the manifold requirements of a protean disease. Some archaic legal fetters should be struck off, the medical staff in some of our large asylums should be reinforced and more liberally remunerated, and, above all, facilities should be afforded for the early treatment of cases of mental disorder, incipient in character or of recent origin. But the necessity for early treatment under such circumstances, the advantage of which has been so conspicuously demonstrated in the psycho-neuroses of the war, is no new discovery. You can scarcely open any asylum report for the last fifty years without finding in it expressions of regret that the patients admitted have not been more promptly dealt with, and statistical evidence that the prospect of recovery is in the inverse ratio of the duration of the insanity prior to removal to the asylum. There can be no question that the legal formalities connected with asylum treatment, intended for the protection of the liberty of the subject, have led to some increase of insanity, or rather accumulation of lunatics. There has been a natural shrinking from certification, magisterial inspection and registration as a lunatic or person of unsound mind, and from all the vexatious limitations that attend detention in an asylum, with the stigma that it is supposed to leave behind it, and so the evil day has been

in many cases postponed as long as possible ; the golden opportunity has been allowed to slip past unimproved, and what might have been a transitory illness has been converted into a permanent infirmity.

It was in the hope of avoiding such calamities, and of furnishing opportunities for the early treatment of cases of acute and recent mental disorder, while at the same time promoting pathological investigations and the education of medical students and medical practitioners in psychology, that Maudsley generously supplied the funds for the hospital which now stands on Denmark Hill, admirably equipped, and happily under the sagacious tutelage of Sir Frederick Mott. It was in 1907 that the scheme occurred to him, but long before that the want of such an institution had been felt and insisted on, and I hope I shall not be regarded as egotistical if, in order to show that we have not been as blind and sluggish as is alleged, I quote a passage from the Presidential address which I delivered to the Medical Society of London in October, 1895 : " For my own part," I said, " my hopes are centred in the establishment in or near London of one or more, not asylums, but genuine hospitals for mental disease. These hospitals would be organised like ordinary general hospitals, would have a staff of visiting and assistant physicians, and of consulting surgeons, and specialists in diseases of the eye and ear and in those peculiar to women, and of resident medical officers and clinical clerks. Attached to them there would be an out-patients' department and a school of medical psychology with laboratories and museums, in which systematic investigation, teaching and demonstration would be carried on. A few such hospitals—not merely 'monasteries for the mad' or convenient shoots for human rubbish, but real mental hospitals—would exercise at once a salutary and invigorating effect on the medico-psychological specialty and bring it back into closer correspondence with the medical profession as a whole."

That vision has in part materialised in the Maudsley Hospital, and the Maudsley Hospital has set an example which will be followed under the more liberal and elastic lunacy law dispensation which is undoubtedly in store for us. Hospitals like it will spring up in our large towns, and psychiatric clinics will be established in connection with our general hospitals, where sufferers from mild and larval insanity may receive skilled treatment in conjunction with patients suffering from purely nervous affections without incurring the odium of having been in an asylum. There will be an extension of the out-patient department in our public asylums and a perfecting of their clinical apparatus, for it is in them, however successful early hospital treatment may be, that an enormous majority of the insane will still be lodged and treated.

That early treatment will be successful in intercepting some part of the stream of the mentally deranged that now flows on so copiously to

our asylums cannot be doubted, but exaggerated notions of the benefits that will accrue from it should not be entertained. The main part of the stream setting towards asylums consists of congenital idiots and imbeciles, of general paralytics and chronic epileptics, of confirmed cases of dementia præcox or paranoia, and of patients labouring under organic and senile dementia, for whom treatment, early or late, will be of little avail, and there must always be included in that stream a certain proportion of recent and acute cases in which dangerous propensities render immediate admission to an asylum necessary. Already too recent and acute mental disorders occurring in persons belonging to the upper and middle ranks have had the benefit of early treatment and highly skilled advice by specialist physicians, while in all ranks such disorders have been and are successfully grappled with to some extent by the capable general practitioner, who nowadays knows enough of insanity not to be afraid to touch it, and who in the near future, it is to be hoped, will be so educated as to be able to deal with it *secundum artem*. Altogether the relief afforded by early treatment to the pressure on our asylums will not be as great as has perhaps been anticipated. The special mental hospitals, psychiatric clinics and mental nursing homes that come into being under the new *régime* will be auxiliary to our asylums, but they can in no degree supersede them, and it would be a misfortune if they derogated in any way from the reputation of our asylums as curative institutions. Our asylums must become hospitals more and more, and more and more there must be enlisted in their service men of high professional and scientific attainments. There will always be scope in them for the exercise of the finest qualities of head and heart, of expert discernment, and of the healing art, and for experimental inquiry as interesting and promising as that pursued in psychiatric laboratories. Abundance of fresh material is ever pouring into them, and there is, unhappily, piled up in them a huge heap of human *débris* that will reward sifting over from time to time. Nothing in my official experience has struck me more than the way in which cases of insanity of long standing and labelled "chronic" have unexpectedly recovered. And apart from any prospect of recovery, chronic cases of insanity are deserving of scientific attention and ministration. "It is not beneath the dignity of a medical man," to quote the words of Macaulay, "to contrive an improved garden chair for a valetudinarian, to devise some new way of rendering his medicine more palatable, to invent repasts which he might enjoy, and pillows on which he might sleep more soundly: and this though there might not be the smallest hope that the mind of the poor invalid would ever rise to the contemplation of the ideal beautiful and the ideal good."

With the view of insuring that our asylums shall, to the utmost,

fulfil their diverse functions, it is proposed that henceforth those holding in them the higher medical posts should possess a diploma in psychological medicine representing a curriculum of special studies and an examination thereon. The proposal has much to recommend it, but I confess I hope it will not be too rigidly interpreted. In general medicine the asylum medical officer cannot be too proficient, and in the anatomy, physiology, and pathology of the nervous system he must have more than the current modicum of knowledge, but as regards psychiatry in the technical sense I am not quite sure that any great length of time should be devoted to its academic study outside the asylum. Of course a general acquaintance with its terms and methods is desirable, but everyone, lay or medical, acquires some acquaintance with psychology in his passage through life, and it is in the wards of the asylum, in the school of experience, that a man must pick up his practical psychiatry. In the treatment of insanity—in asylums at any rate—it is the physical conditions underlying the disease and its corporeal concomitants that should receive primary attention, and any man endowed with *nous* and sympathy, the universal solvent, will soon in his practice acquire a competent acquaintance with mental operations in their normal and abnormal manifestations. I can conceive of a man learned in all the wisdom of the psychologists who would be a less successful asylum medical officer than one with quick insight, wholesome imagination and vivid sympathy who altogether ignored Freud and Hegel. There is a *tactus eruditus* in handling the morbid mind that only personal practice can confer. Laboratory methods, as Sir James Mackenzie has pointed out in reference to bodily disease, invaluable as they are in their proper place, can never, in clinical medicine, supplant the use of the unaided but trained senses, and may even lead astray, and so in mental medicine psycho-analytical procedures in their more intricate applications, interesting and suggestive as they are, can never, I believe, yield that all-round information and pilotage which methods of observation, long in use, can, when diligently employed, supply, and may even involve the oversight of significant facts.

That the adoption in our asylums of every new means of alleviation and cure which modern science suggests, and in our mental hospitals and psychiatric clinics of prompt and efficient treatment in early cases of mental trouble, will have eminently beneficial results cannot be questioned, but it is, as I have hinted, to neither of these that we must look for a material reduction in the load of lunacy under which we groan. In order to secure that we must apply ourselves to the conditions out of which lunacy grows, and by the curtailment or removal of these prevent its occurrence.

The recently published report upon the physical examination of men of military age by National Service Medical Boards during the last year

of the war presents us with what the Committee themselves describe as "ugly facts," revealing the altogether unexpected extent of the inroads upon the health and physique of our manhood which the progress of civilisation in the nineteenth century has brought in its train. Of the 2,425,184 men examined only 871,769, or 36 *per cent.*, were placed in Grade 1, corresponding with a normal and very moderate standard of health and strength for their age, while 1,553,415, or 64 *per cent.*, were classed in the three lower grades, corresponding with different degrees of physical shortcoming or defect down to permanent unfitness.

The causes of unfitness enumerated in the report, which range from poor physique and hammer-toe up to advanced tuberculosis and valvular heart disease, include insanity and mental defect, but afford no indication of the prevalence of these in the adult population. The certificated insane and the recognised mentally defective were, of course, excluded from the purview of the report, and it is notorious that considerable numbers of lunatics and imbeciles did pass into the army undetected. Among the volunteers who flocked to the colours in the enthusiasm of the early days of the war were many men of unsound mind who slipped through the then cursory examination, some of whom "foremost fighting fell," and many of whom have been sent back to find their ultimate destination in our asylums; and amongst the men who passed through the stricter scrutiny established under the Army Service Acts were many who laboured under disabling mental deficiency. The examination of the National Service Medical Boards was essentially physical, and practically no mental tests were applied except where signs of mental weakness were ostensible, and then the tests consisted in ascertaining what standard at school had been reached and what wages had been earned, or by setting a simple sum in arithmetic. I believe that many mentally deficient lads of fair physique, able to do everything directed by the doctor, were graded 1, until there came a letter of expostulation from a father or a belated medical certificate relating facts necessitating rejection.

Had an examination been held into the mental condition of the men coming before the National Service Medical Boards, at all comparable in thoroughness and minuteness with that instituted into their physical condition, and had that examination been conducted by experts, it would, I am confident, have shown an amount of mental unfitness in our adult male population—that is to say, in the sanest section of our community—that would be startling, and would corroborate the finding of the Ministry of National Service Committee that a grave emergency exists. Were a psycho-census of the whole people practicable we should undoubtedly have brought to light in all classes of society an unsurmised amount of mental deficiency or disorder of one kind or another, and a wide diffusion of that neurotic temperament that is the soil in which

the neuroses and psychoses alike grow. Our mental grade 1 in such a census, including average intelligence, the absence of minor mental defects and general fitness to meet the obligations of life, would be small and select, and the other grades, corresponding with partial fitness only, would be made up of heterogeneous masses of mental inefficiency very unequally distributed in different areas of the country and industrial centres.

We need not, however, wait for any psycho-census before insisting on measures being taken for the mental betterment of our people. The physical returns already before us are sufficient to warrant an immediate resort to these. Even from the returns of stature alone we might infer, having regard to the co-relation between height and mental ability, that there is some general deterioration of mental energy, and the lists of the causes for which men were rejected or low-graded reveal a multiplicity of morbid physical conditions with which mental disability is associated or on which it will become engrafted. It is impossible to regard either the standards of height or of health as satisfactory, and we may well be surprised, to quote the words of the committee, "that with human material of such physique it was found possible to create the armies which overthrew the Germans and proved invincible in every theatre of the war." But the spirit of the race which made that possible deserves that no efforts should be spared to ameliorate the conditions which have brought about such deplorable effects upon its health and physique.

One of the compensations we have for the war, with all its horrors and anguish, is the discovery of our imperfections and of the risks we have been running, the realisation of the urgent need of sanitary reform, and the demonstration—the absolute demonstration—as set forth in Sir John Goodwin's recent Chadwick Lectures, of the infallible success of sanitary precautions scientifically employed. We are awake at last, and under the Ministry of Health, with its medical head, prompt steps will be taken for the better housing of our people, with the re-constitution of family life that that will make possible, for their better and unadulterated feeding, and for their physical training and protection against over-fatigue, and for the restriction of the ravages of preventable disease, and especially of venereal disease, which will all in course of time be reflected in improvement in their mental vigour and in their immunisation from certain forms of mental disease. These are comprehensive hygienic measures of the need of which every member of our department is profoundly convinced, and in the carrying out of which they will all in their own sphere zealously co-operate; but there are other hygienic measures of a less material but still momentous nature with which they are even more closely concerned, and on which the founder of this Lectureship persistently dwelt. "The prevention

of insanity when possible," wrote Maudsley, "is a better thing than its cure, which is often impossible." And the two principal ways for its prevention he laid down are to hinder its propagation from generation to generation, and to employ that training and culture which is best fitted to repress and suppress its germ in one who is predisposed to it. Eugenics and education: these are the two great safeguards against mental degeneration, disease, and decay.

An early eugenicist, even before Galton invented the word, Maudsley strongly advocated the main principles of the science. "Were it the rule," he said, "in the marriage mart, as in the horse mart, to require a warranty of soundness, either many marriages would not take place which now take place, or many actions for breach of warranty would lie." "In the breeding of animals," he said, "we should unhesitatingly discard stock wanting in the qualities which are the best characteristics of the species. But mental balance and integrity is the highest attribute of man, therefore all manifesting any lack of it should be for breeding purposes discarded." But to this sweeping generalisation he did not consistently adhere. A believer in the transmission of acquired habits, and holding that mankind is indebted for much of its progress to genius, which has almost invariably emerged in families in which there is a predisposition to insanity, he fell into what we should now regard as grave error. "To forbid the marriage of a person sprung from an insanely disposed family," he said, "might be to deprive the world of singular genius or talent, and so be an irreparable injury to the race of men. Let it be supposed that a person will have children, one or more of whom will go mad; it might still happen that the world would gain more by one of the children who did not go mad than it would lose by those who did. In that case, would not this marriage, grievous as its consequences might be to individuals, be amply justified by the good done to the race? Nature does not take much account of the individual or his sufferings; it is singularly lavish in the production and destruction of life. Of all the multitude of living germs produced, but an infinitesimal proportion reaches maturity. If, then, one man of genius were produced at the cost of one thousand or fifty thousand insane persons, the result might be a compensation for the terrible cost."

But the cost, we will now say, would be a good deal too high. In the case assumed by Maudsley, the production of the mad folks would be certain, but the appearance of the genius would be problematical; genius is a rare commodity, and to encourage the marriage of persons strongly predisposed to insanity on the off-chance of getting one genius out of fifty thousand lunatics would be an exceedingly rash speculation. The destruction of superfluous life by Nature takes place for the most part at an early stage of existence. It is the living germs that are sacrificed, and that sacrifice goes on abundantly in human beings; but

lunatics are matured forms, and to sacrifice thousands of them to lunacy in order to secure even a first-class genius would be ruinous.

Apart from this bit of homage to genius, Maudsley soundly enumerates eugenic principles. He attaches primary importance to the insane diathesis or an inborn tendency to emotivity which has played so conspicuous a part in our war psychoses, he distinguishes the several varieties of the neuroses which differ in degree and in liability to hereditary transmission, the transformations which they undergo in passing from one generation to another, and their tendency to reappear after skipping a generation, and he does all this with a charm of style and a wealth of metaphor that make his teaching captivating and impressive.

Since Maudsley's time eugenics have advanced, and it is possible now to speak positively on points which he left indefinite, but there is still infinitely much to be done before a trustworthy code for practical guidance can be constructed. It is still very often a perplexing problem to know what to allow or forbid in the marriage mart. But the most valuable contributions to our knowledge of eugenics in human relations have come from our lunatic asylums and from the study of inebriates and criminals, and it is to our lunatic asylums that we must look for further guidance, now urgently required.

As regards mental deficiency, thanks to the labours of the Royal Commission and to subsequent legislation, there has been reached some popular recognition of the risks run and the restrictions and segregation necessary, but beyond that all is licence and prohibition is unknown. In the cultivated classes it is rarely that persons contemplating union seek medical advice, and the proletariat marry and are given in marriage without a thought of their physical or mental fitness for parentage. During the war there has been much precipitate and indiscriminate matrimony of a very short-sighted description, and altogether it would be Utopian to hope for any speedy diminution of insanity due to increased eugenic wisdom. But the eugenic propaganda should be more active than ever, and the public mind should be disabused of the notion that the doctors are the uncompromising opponents of marriage wherever any tendency to insanity exists on either side. It is theirs to weigh probabilities, and as often to abolish unnecessary apprehensions as to warn against prospective evils. I daresay it has happened to many of us to be consulted in fear and trembling by the son or daughter of a general paralytic, born long before the infection leading up to that disease was contracted, who would live for years haunted by misgivings but for the assurance which the doctor is able to give."

As regards education in connection with the prevention of insanity, Maudsley took a broad and judicious view. "There are not many

natures predisposed to insanity," he said, "but might be saved from it were they placed in their earliest days in exactly those circumstances and subjected to exactly that training most fitted to counteract the innate infirmity." And we may go further than that and affirm that there are not many natures, whether predisposed to insanity or not, that may not be fortified by genuine education against the attacks of those malign agencies that are productive of mental disease, and that are encountered by all men and women in their journeying through life. All high-grade alloy steels owe their strength and shock-resisting properties to scientific heat treatment, and so high-grade brains should owe their tensile strength and shock-resisting power to the scientific educational tempering they have undergone.

But scientific educational tempering which will brace the brain and steady the mind and prove protective against adverse influences is yet to come. Instruction we have had on the large scale, education to a limited extent, and while instruction has conferred upon the country enormous benefits, it has also been responsible for some disastrous consequences where it has over-strained immature feeble and under-nourished brains, or has tended, under hare-brained teachers, to unsettle these fundamental tenets of morality on which mental and social stability depend. The seeds of insanity have sometimes been sown in the school, and its first sproutings have taken place there unnoticed. "The loom of youth" has left nasty flaws and introduced distorted patterns into the fabrics it has woven and splendid opportunities of promoting mental hygiene in our gymnasias have been wasted, simply because our ruling educational authorities have in their self-sufficiency ignored psychology and cerebral physiology. We are, I think, becoming alive to that now. The attention bestowed on the bodily health of the children since the appointment of school medical officers has conduced to their mental welfare, and the weeding out of the feeble-minded has led to the recognition of different degrees of educability in those who are not technically defective.

But we are just entering on a new era in education and again we have to thank the war for a drastic change. The new Education Act has secured for this country, I believe, educational machinery superior to that of any nation in the world, and it remains for us to put that machinery to a right use. It has become obligatory to provide not only a sound elementary or preparatory education for all, but to follow that up by a further course, the type and extent of which, whether secondary, technical or university, will be determined, not by social standing or economic conditions, but in the first instance by the outlook and forethought of the parents, and in the second place by the ability and inclinations of the students themselves. Our educational activities are to be extended both upwards and downwards, and it is to be hoped

that in their every stage they will be aided by medical and psychological knowledge and experience.

In the nursery schools which are to be established some modifications of the methods of Dr. Montessori—a distinguished member of our specialty, whose system is founded on the work of another of our confrères, Seguin—will certainly be adopted, and will help on infantile mental evolution on right lines. In our elementary and secondary schools expert assistance will have to be sought in adapting the curriculum to brain growth, and in devising the best means of educating the inborn capacities and faculties in different groups of boys and girls at different ages, and in performing a duty in which schoolmasters and teachers now lamentably fail and for which they are perhaps incompetent, and that is to advise on the course of life and occupation for which the boy or girl leaving school is best suited by talent, attainments and predilection, and in which he or she will find most satisfaction and success, thus avoiding the danger to mental equilibrium which an uncongenial like-work entails. In schools of all ranks the health ideal must be set up, dislodging the old fetish of book learning with contempt for this vile body, as it used to be called, and in all, as in the home circle, there must be initiation into the mysteries of life and the inculcation of sound rules of wholesome living.

In order that education may be made fully effective in the prevention of insanity and of its neurasthenic and hysterical harbingers much study of the growing mind is still necessary, and that must be undertaken by psychological experts, who will no doubt employ psycho-analysis—but psycho-analysis of our old English type, chaste and approved, with no admixture of German frightfulness, and in constant conjunction with neuro-physiology. Much light has been thrown on the part which education in its widest sense may play in the prevention of insanity, and on the dangers that attend the lack of it—that is to say, the lack of trained disciplinary control of the higher over the lower centres in the nervous system by the psycho-neuroses which have arisen out of the war; and some light is, I believe, thrown by these on the mechanism of the brain and on its functional habits. Particularly interesting in this respect have been those rapid transitions from states of grave mental disorder and incapacity to restored power and normality which have been of such frequent occurrence, which have, more than any other mental war phenomena, interested the public, and which have, of course, corresponded with sudden brain changes.

Now sudden brain changes are no new things. They have been brought into prominence by the war, but they have occurred from time immemorial, and, just as has been the case during the war, many of the most striking instances recorded in the past have been in connection with speech and phonation. Herodotus tells us of a son of

Cræsus who had never been known to speak, but who, at the siege of Sardis, was so overcome with astonishment at seeing the King, his father, in danger of being slain by a Persian soldier, that he exclaimed aloud, "Oh, man, kill not Cræsus!" This was his first articulation, but thereafter he retained his faculty of speech as long as he lived. Dr. Wigan, the author of *The Duality of the Mind*, had a patient eight years old, sound in intellect but perfectly dumb, and whose family had abandoned all hope of curing him, who, seeing his father fall overboard from a boat in the Thames, called out aloud, "Oh, save him, save him!" and from that moment spoke with almost as much ease as his brothers. The late Dr. Charlton Bastian was consulted about a boy—the son of a leading barrister—who had fits in infancy, and who, when five years old, had not spoken a word. Two eminent physicians were consulted about his dumbness but could not help him, but before the end of another twelve months, on the occasion of an accident to one of his favourite toys, he suddenly exclaimed, "What a pity!" The same words could not be repeated, nor were others spoken for two weeks, but thereafter he began to talk and soon became exceedingly loquacious.

In cases like these there has been, we may presume, an arrest in cerebral adjustment in one of its compartments. The age at which articulate speech is acquired, or at which the receptive and motor neurons concerned in it establish communication, varies considerably in different individuals, and in cases such as those just mentioned had been from some cause indefinitely postponed. But a powerful emotional impulse, which is always of higher tension than a volition, ultimately forced its way through the prepared, but hitherto untrodden, pathway, and brought into relation those centres in which had been accumulated the memories of vocal sounds and those in which had been co-ordinated the complex movements of articulation. The channel, once thus opened up, afterwards remained pervious.

But much more frequent than postponed is interrupted functioning in certain cerebral tracts, and of that we have many different kinds, all of which have been copiously represented during and since the war. We have had not only mutism, but blindness, deafness, paralysis, contractures, amnesia and other mental derangements of instantaneous incursion and sometimes capable of instantaneous cure.

Of the war neuroses, due to shell-shock—the term is objected to, but I use it as short and convenient and now of pretty general acceptance—of the war-neuroses due to shell-shock, those in which there has been severe concussion or commotion cannot, of course, be terminated abruptly except in death. In such cases ending fatally there have been found minute scattered punctiform hæmorrhages into the periaventricular sheaths and substance of the brain similar to those seen in gas-poisoning,

but in cases in which the concussion, actual or aerial, has been less violent, and in which recovery has taken place, there has been what might be called bruising of the delicate brain tissues. Of all the lessons in neurology taught by the war there has been none more striking than that showing the tendency to natural recovery in nerves which have been concussed, compressed, lacerated, and even divided, their recovery being sometimes delayed as long as ten or twelve weeks after the injury. "After a time," says Dr. Macdonald, "regeneration commences in the lower end of the proximal segment, and new axon cylinders grow down to and beyond the point of section. In from four to six weeks there will be bundles of new axis cylinders at this point, and if they are firmly tapped with the finger the patient will experience tingling, or 'pins and needles,' in the skin over the dorsum of the foot. If the new axis cylinders succeed in growing down the trunk, or if the latter has only been contused and has preserved its anatomical continuity, then, *pari passu* with the growth of the axis cylinder, there occurs a downward extension of the distal tingling on percussion."

Now if similar recuperative changes occur in the neurons, axons, dendrites or nerve-fibres of the brain which has been subjected to contusion or compression, we can understand how gradual, although perhaps long-delayed, resumption of cerebral function takes place where that has been suspended more or less by shell-shock or other accident, as in cases of anergic stupor. Under such circumstances sudden recovery is not to be expected, either through reparative processes in injured parts or by transference of function to intact areas, but the state of matters is very different where there has been no coarse change in the cerebral mechanism, but only that subtle interference with activity which we call functional.

It is in cases of shell-shock where the physical injury has been slight, or in cases where there has been no physical injury but merely strain and stress, fatigue, or violent emotional perturbation, that there is interruption in cerebral communication amenable to the immediate re-establishment of continuity. It is in cases where psychogenesis has been at work that sudden brain changes are most often observed, and the psychogenetic conditions in such cases according to a certain school are ascribed to conflicts between the standards of civilisation and a body of imperfectly controlled and explosive forces in the subconscious mind, the most common conflict being that between a sense of duty and the instinct of self-preservation, immediate or deferred. We are told that the war let loose horribly cruel, sadistic murderous impulses which had been kept chained down during peace, and that is—as regards our men, at any rate—I would say, a gross libel and a cruel insult to those of us who have graves in France and Flanders to tend. As well say that the operating surgeon is stirred by a latent taste for butchery.

No doubt in the heat of battle the combative instinct and the instinct of pursuit asserted themselves ; no doubt now and again a man may have given way to the lust of cruelty ; but throughout the war I am confident the mass of our men, under the most harrowing and revolting circumstances, were animated and sustained by worthy motives and not by subterranean devilry. Their heroism, their endurance, their helpfulness in the field, their unaffected stories, their merry jests, the letters they wrote home, the poems they composed, prove this incontestably. Even the bayonet exercise they went through, which is singled out as pure savagery, was engaged in more, I believe, as a trial of skill than with a blood-thirsty intent. The herd-instinct of which we hear so much may have helped to hold them together and impose restraint, but it was patriotism pure and simple, and a sense of right and duty that enabled them to accommodate themselves to the new assemblage of strange and horribly trying circumstances in which they found themselves. Our men went over the top, or suffered long-drawn-out misery in the trenches, in no spirit of wanton aggression and brutality, but for self-defence, for the protection of those united to them by family affection, by friendly association, patriotic sentiment, or for righteous conviction. The flame of modern knight-errantry was lambent amongst them.

That fear, or rather the fight against fear, and the inhibition of its expression, have been largely accountable for our war psycho-neuroses is indubitable, but that in no way impugns the courage of our troops, for it is to be remembered that although the number of cases of psycho-neuroses has been large, the proportion of these to the number of men serving has been exceedingly small, and that in almost all the cases of psycho-neurosis thus originating there has been evidence of strong psychopathic tendencies having existed before the war, or of that neurotic temperament which corresponds with high susceptibility of the higher nerve centres and diminished control of the higher over the lower centres. The trend of modern civilisation seems to have been to an extension of the dominion of man's will in the higher or intellectual sphere, but to a reduction of its sway over lower corporeal levels. North-American Indians and negroes have a control over the reactions of painful and disagreeable stimuli which Europeans do not possess. They can endure without wincing torture which would cause in us the most lively manifestations of suffering, and I suppose it is true that the coloured races engaged in the war have suffered less from shell-shock than our men. Our great-grandfathers were probably harder and less sensitive than we are to-day. The kind of neuroticism induced by terror or protracted fear will depend on the direction in which will-power, owing to inborn disposition, over-indulgence or habit is weakest. The ascendancy of the will is not exerted along particular lines as it ought to be, and so subordinate centres break away from

authority and unduly assert themselves. Impulses which should be disciplined become insurgent, and there is not a conflict but a stampede. "The private," says Dr. Head, "develops a conversion hysteria and is carried from the danger-zone paralysed. The officer becomes the victim of an anxiety neurosis and commits suicide." An army medical officer, writing to the *Times*, says that "well-bred horses, like well-bred men, or shall we say highly organised men, suffer from shell-shock more than low-bred ones, though the same well-bred horses are infinitely more gallant than their low-bred companions."

There is a well-known anecdote related of some great general who read on a tombstone the inscription, "Here lies one who never knew fear," and upon this remarked—"Then that man can never have snuffed a candle with his fingers." The emotion of fear must have been felt by all who in the war have been exposed to imminent peril to life and limb, and who have at the same time seen around them wounds, death and boundless anguish and misery, but in the well-balanced mind the counteractives have been sufficient to hold the emotion in check. The terrified soldier, we have been told, is restrained by the thought that if he runs away he will be shot at dawn, but that is a crude explanation of the way in which terror has been resisted. The instinct of self-preservation is assuredly primary and paramount, but even in the lower animals it may be set aside by love of offspring or a rudimentary sense of herd obligation, and in man it is subordinate to a multiplicity of sentiments and ideas, ingrained or fluent, which hold up the hands of the will to resist its promptings, however insistent these may be. Martyrology is a chronicle of the triumph of religion over the self-saving instinct and heroism is invariably associated with its abnegation. Even inexcusable superstition is sustaining against it. "A man has a mascot," writes home *The Boy with the Guns*, "a charm of little worth though of great value to him, or a photograph or flower; he loses it and then loses his life. Such things are always happening. And the men must have something to believe in, and something tangible to express their belief—a sign, a symbol, something, a link between themselves and the inexpressible, between themselves and all that they cannot see or understand but which they feel exists." But the degree in which the instinct of self-preservation may be held in check under terrifying conditions depends on the functional activity for the time being of the highest cortical centres in the brain. Where these are vigorous and have been braced by discipline a man can command himself and retain self-possession throughout the most appalling ordeal, but where they have been weakened and worn down by long stress, by the constant expectation of evil, or by bodily debility the bravest may respond to fear-inspiring impressions with reflex uncontrollability. Under such circumstances self-preservation may assert itself as

inevitably as the blinking of the eye on a threatened blow. Remembering what our men went through, it is reassuring to know that in cases of cowardice and desertion no man was condemned to death who could justifiably plead shell-shock or some mental damage. When a soldier, in his defence or in mitigation of punishment, urged a substantial plea on mental grounds, medical witnesses were called, and the court-martial was adjourned and a medical board was held. At the adjourned hearing one or more members of the board were called as witnesses, and amongst them was always a mental specialist if there was a suggestion of shell-shock or other kind of mental or nervous disorder.

The fear factor, as disclosed in many of the war psychoses, has been simple enough in its operation. A man became possessed by fear, felt ashamed of it, struggled against it, and concealed it from his companions, but it gradually increased in stringency as he suffered more and more from fatigue and hardship, and finally overcame him, ending in a fit followed by mental confusion and delusions. For practical purposes is it necessary to proceed further in such a case or to invoke psycho-analysis? That the mental breakdown resulted from fear, which a sense of duty and self-respect and apprehension of ulterior risk were unable to subdue, is obvious enough. Shall we be much wiser or better able to help our patient if we trace it back, or pretend to trace it back, to an unresolved infantile mode of behaviour or to some relation between it and unsatisfied sexuality? The conclusion that the morbid variety of fear represents the discharge of repressed and unconscious sexual hunger is, we have been told, one of the most securely established in the whole range of psycho-pathology, upon which my comment would be—"So much the worse for psycho-pathology!"

Emotional conditions, especially when violent and often repeated, are extremely potent in precipitating new mental arrangements, and it is little wonder, therefore, that the profound agitations which our men at the front have passed through have resulted in disruptions of mental continuity corresponding with disruptions of physiological continuity in the brain. "One thing we may conclude certainly," said Maudsley; "of all moral commotions and mental overstrains which cause insanity—that they do so by straining or breaking the molecular ties of nerve structure and so injuring or destroying its vital activities." Prof. Waller's recent experiments, following on the lines already laid down by Féré, Tarchanoff, Slicker, Muller, and Peterson, have proved that large and sudden electric discharges which are independent of any muscular movement accompany a great many of the alarms and shocks of life. It was found that when strong and disagreeable stimuli were used—such as an unexpected loud sound, an unexpected burn, a disagreeable and pungent smell, or a

painful thought—while muscular movement of any kind was absent, marked electrical actions occurred. In a Belgian woman who was told to think of her native land—she had seen various tragic episodes of the German occupation—a very strong reaction was evidenced, and it was always noticed that the most effective ideas were such as were accompanied by disagreeable or painful emotion. We are, I think, justified in inferring that it is in such electrical discharges accompanying the intense and violent emotions evoked by the war that we have the explanation of many of those sudden losses of function which have so often followed these emotions. Impinging on the synapses of the neurons, which play so important a part in psychical processes, and which are the weak points in the nervous pathways, it may well be that they have increased their resistance in certain areas to the point of non-conductively producing a state analogous to fatigue which, when excessive, results in changes in the cell substance. The discharges would be most damaging in the higher and later developed levels of the nervous system, where the cells' functions are less solidly organised than in the lower levels, where they are relatively firm and open to the nervous currents, and they would be most likely to induce injurious effects where the neurons are constitutionally less closely compacted and more unstable. An apt illustrative analogy of what probably takes place under such circumstances is supplied by Mr. Charles Salmonds. "We may picture," he says, "an electric current passing through a copper rod divided into a large number of segments; if at one end of the rod the segments are pressed firmly together the current passes easily; if at the other the segments barely touch one another the current passes the junctions only with difficulty." Prof. Waller observed that different subjects react very differently to different stimuli, and the same subject in different states of health and at different hours of the day to identical stimulation; and so we can understand how the violent emotions of the war have caused sudden brain blockage in men predisposed to hysteria, neurasthenia, or the psycho-neuroses, exhausted by strain and stress or worn down by illness, while they have left men of more equable temperament and in sound health unscathed.

Recovery from brain blockage and the re-establishment of synaptic transmission sometimes takes place almost immediately, and, as it were, spontaneously; sometimes gradually, in altered environment and under medical treatment or re-education, and sometimes even after long delay quite suddenly under an emotional jerk much milder than the original shock, but, like it, accompanied, no doubt, by an electric discharge, exciting a change in the synaptic membrane by which transfer takes place. The emotions producing brain-blockage are almost invariably of a painful and startling description; those removing it are generally

of a pleasurable complexion. We are all familiar with such cases. Many disabilities have been swept away in the twinkling of an eye by the announcement that a man would have no more fighting to do. Power was instantly restored to the paralysed arm of a soldier on receiving an affectionate letter from his wife. A soldier who had been rendered deaf and dumb during the fighting in Flanders regained speech and hearing in a burst of laughter during a humorous sketch at a concert in his hospital, and another soldier struck dumb in battle was cured on the spot by being kissed by a young lady visiting at his bedside. The way in which an emotion may counteract the effect of mental shock and blockage is very beautifully illustrated by Tennyson :

" Home they brought her warrior dead ;
She nor swooned nor uttered cry ;
All her maidens watching said,
' She must weep or she will die.'

" Then they praised him soft and low.
Called him worthy to be loved,
Truest friend and noblest foe.
Yet she neither spoke nor moved.

" Stole a maiden from her place,
Lightly to the warrior stept,
Took a face cloth from his face ;
Yet she neither moved nor wept.

" Rose a nurse of ninety years,
Set his child upon her knee.
Like summer tempest came her tears.
' Sweet my child I live for thee.' "

The appropriate affinitive impression for the relief of shock in this case—an excitation that discharged inhibition—was discovered, not by any process of psycho-analysis, but by the ripe experience of an old woman. Similar experiences sometimes surprise us in our asylums. I remember reporting the case of a young woman (S. W—) who had been a schoolmistress and who laboured under dementia præcox—or acute dementia as we then called it. She was depressed, imagining she had done some great wrong, and markedly stereotypic, remaining fixedly in any position in which she was placed, and being generally mute. She was several months under treatment, showing no marked improvement, when suddenly one evening she shook off her lethargy and became quite herself, and remained from that moment bright, intelligent and natural in her conduct. Her quick recovery she herself explained, saying that it came about as she was being fed with her evening meal by a new nurse who had just come into the ward. She heard the nurse tell another nurse that she came from Lincoln, and the mere mention of Lincoln, where she had herself been born and reared.

called up a flood of happy memories which swept her delusions and inertia away. The motherland suggestion, as the psycho-analysts would call it, was obviously the touchstone in this case, but perhaps the course of baths and tonics to which the patient had been submitted had prepared the way for its magical effect.

We have all, no doubt, met with instances of this sort in which there has been sudden relief from brain stasis by an emotional antigen, and most of us must have had personal experience of the effect of a summation of voluntary stimuli in procuring significant brain changes at an express rate. In the lapses of memory which occur during fatigue, illness or old age, we grope anxiously about for a time for a proper name, and then it suddenly flashes upon us, the reinforced mind current having spanned the synaptic gap, just as an electric current of higher potentiality will spark across an interval that was too wide for a current of lower potential to leap.

In connection with sleep sudden brain changes are noticeable. Its incursion is ordinarily gradual. The senses are closed, will-power is let slip, and fancy, free from control, sports for a little discursively and then subsides; but sometimes, as in extreme fatigue, sleep comes instantaneously with a snap. There is, as it were, brain stasis in sleep but no general blockage, and on waking the stasis gradually gives way before the stream of returning consciousness, first trickling and then flowing freely; but the stream may come with a gush, and then instantaneous awaking occurs. Dreams are, of course, replete with sudden variations, and Dr. Hughlings Jackson suggested that certain absurd and persistent delusions are fixations of grotesque fancies and dreams in which a morbid change in the brain has happened suddenly and increased suddenly during sleep. The fixation of the grotesque fancies or ideas gives rise to an imperative and fixed idea, and Hughlings Jackson thus accounted for these quasi-parasitic states or delusions in cases where general mental power is but little lessened.

Deeply interesting studies of sudden brain changes may be made in connection with what is known in religion as conversion, of which I must only speak here with great deference and reserve. On its theological aspects I must not touch beyond saying that it is by great multitudes of people regarded as a direct spiritual influx and outpouring of divine grace—a sort of celestial telepathy—and there can be no doubt that it has, on the large scale, meant an altered attitude towards life and a favourable change in disposition, character and conduct, sometimes transitory but often enduring. But from the physiological side it is an inner brain happening with new arrangements of nerve-currents, and where it has taken place in connection with revivals it has often presented many of the features of recovery from shell-shock and anxiety neuroses, and under such circumstances might be described as soul-

shock. It is no slow growth, but catastrophic in character. John Wesley said: "In London I found 652 members of our Society who were exceedingly clear in their experience and whose testimony I had no reason to doubt. And every one of these, without a single exception, has declared that his deliverance from sin was instantaneous—that the change was wrought in a moment." In the revival cases certainly, and in many others just as in our psycho-neuroses cases, the soul-shock has been brought on by fear, or by fear and the promptings of the instinct of eternal self-preservation. It has been by appeals to fear that revivalists have carried out their mission. They have succeeded in inducing in their more sensitive auditors a state of terror not unlike that experienced by the more emotional of our soldiers in the perils of the trenches and the field. Our men have constantly described the battles in which they took part as "hell," and it is by visions of hell conjured up before them that the ardent votaries of evangelical religion have been plunged in emotional perturbation. Jonathan Edwards, whom all succeeding revivalists have imitated, thus horrifically played on the feelings of a congregation: "If we should suppose that a person saw himself hanging over a great pit full of fierce and glowing flames by a thread that he knew to be very weak, and knew that multitudes who had been in that position before had fallen and perished, what distress would he be in. The unconverted belong to the devil, and he is ready to seize them the moment God permits. God is more angry with many of you now than he is with many in the flames of hell. Some of you will within a year remember this discourse in hell. You would have gone to hell last night had not God held you like a loathsome spider over the flames by a thread."

We cannot be surprised that exhortations like this, delivered with superlative earnestness and unction, repeated again and again, wrought up to great excitement a crowd of people often in a state of exhaustion, for the services went on for hours, sometimes continuously by day and night. Shouting, singing and groaning were indulged in, and all sorts of nervous disturbances and even insanity resulted. Let me quote a description of a revival at Red River in 1800. At the words of an effective preacher faces were streaming with tears at a pungent sense of sin, and the cries for mercy were terrible to hear. The floors were covered with the slain. Services were held for seven days and sometimes all night. The circulation was affected, and nerves gave way; many dropped to the ground, cold and still, or with convulsive twitches or chronic contortions of face and limbs, and at Cover Ridge 3,000 were laid out in rows. The crowd swarmed all night from preacher to preacher, singing, shouting "Lost! Lost!" leaping and bounding about. As the excitement went on it took the form of jerking, beginning with the head; with others it became barking, or the holy-laugh, as it was called. They saw visions and dreamed dreams.

The transports of these revivalists were, for the most part, short-lived, and passed away, leaving only nervous exhaustion behind, but in a large number of instances they were followed by anxiety neuroses and psycho-neuroses of a pronounced type. There was prolonged melancholia, with delusions, headaches, sleeplessness, hallucinations—such as voices summoning to repentance and visions of the Day of Judgment—palpitations, sweatings, indigestion, vomiting, and nervous tremors and convulsions, and it was from this state of engrossment of the mind by one system of ideas that conversion was the escape. By persuasions by the minister or evangelist, by suggestions of friends, by some emotional appeal in the singing of a hymn, or by some trivial and apparently irrelevant incidents, as the reading of a text, conversion came in a flash, and not only was mental tranquillity restored, but a state of complete happiness was reached. A transformation took place which could not be clearly set forth in words, but which was vaguely described by those who had undergone it as “Heaven upon earth,” “a mighty presence,” “a sense of newness,” “a great surrender,” “assurance of salvation,” “a glorious light,” “a wave of the spirit,” and so on. In such cases the translation from one order of thought and feeling to another that occurs in so many young people brought up in evangelical circles, as a normal phase of adolescence and a growth into a larger spiritual life, takes place momentarily. At the summons of some particular event or word a feeling is aroused that spreads itself like wild-fire over the whole field of consciousness and imparts a colouring to all elements included in it. This religiosity *per saltem* connotes a sudden change of current in the association centres of the brain. The old system is changed, beaten tracks are deserted, and new communications are opened up. In a violently excited state of emotion pressure in the brain-cell or psycho-active matter is increased just as a stronger current is yielded by a heated electric cell. And this gives rise to movement without and within. There is muscular restlessness, associations are no longer regulated by established canons, overflow takes place, and after an inundation, more or less wide-spread—the confused and hallucination period—fresh channels are hollowed out and an entirely new system of canalisation is established. This may be permanently maintained, or it may be relinquished, in a return to the old system.

The Eleusinian mysteries seem to have had something in common with modern revivals. They aimed at counteracting the passions of ordinary life by the abiding remembrance of an appeal to terror and pathos, and so profound was their influence that it was said of some who have gone through them that they were never seen to smile afterwards.

Many who have never undergone religious conviction are aware of

secular experiences of a somewhat similar type, critical moments in their lives—often during adolescence—when quite suddenly and without warning new life streamed in on them, as if from without. A course of study may have led up to it, a strong emotion may have preceded it, or some quite trifling incident may have determined it, but abruptly and inexplicably the change came, and a sense of strangeness and expansion dawned. There was a jolt, a turn, and the mental contents were as if kaleidoscopically re-arranged in an order different from that which had hitherto obtained. A memorable example of this spiritual new-birth, reached not by gestation but by a regenerative flash, as it occurred to Carlyle he has himself described: "Nothing," he wrote, "in *Sartor Resartus*, is fact, symbolical all, except that of the incident in the Rue St. Thomas de L'Enfer, which occurred quite literally to myself in Leith Walk. The incident was as I went down I could now go straight to the place," and the incident may be epitomised as follows: "Full of such humour and perhaps the most miserable man in the whole French capital or suburbs was I one sultry Dog-day after much perambulation toiling along the dirty little Rue St. Thomas de L'Enfer, when all at once there arose a thought in me, and I asked myself 'What art thou afraid of?' and as I so thought there rushed like a stream of fire over my whole soul, and I shook base fear away from me for ever. I was strong, of unknown strength; a spirit, almost a god. From that great moment of Baphometic Fire baptism I became a new man," or, as Carlyle has it, "I authentically took the devil by the nose"—a victorious ending of a protracted conflict.

But besides sudden expansions there are sudden contractions of brain energy. "The memory of James Hinton as a boy," Sir William Gull has said, "was quite marvellous. A school-fellow of his at Reading recalls that when the master set six pages of history, Hinton read it once over and repeated it verbatim. But rushing one day hurriedly from cricket to his lessons there was a sudden lapse of this remarkable power, a sense of gone-ness, and it never returned to him."

I have referred to cases in which sudden recovery from insanity has taken place, in response to some moving emotion, and we are all familiar with cases in which sudden recovery and relapse occur under some periodic physiological law still unexplained, allotropic brain changes they might be called. But I should like to mention that there are cases in which sudden recovery supervenes on a physical concussion or jar. It is easy to understand why physical shock should interrupt the functions of the brain, but it is not so easy to understand how it should resuscitate them and restore their balance. Some time ago I visited a gentleman who had for years laboured under delusions of persecution, which had become so aggressive as to make him dangerous

and to necessitate his being placed in an asylum. Two attendants having arrived at his house to remove him, he rushed upstairs to escape from them, and jumped from a first-floor window into the street. When he was picked up it was found that his vertebral column was broken in the dorsal region, but that he was perfectly clear in mind. His delusions had vanished, and he was reasonable and collected. He ultimately died from the effects of his injuries, but he lived some months, and was lucid to the end. The late Dr. Robert Smith, of the Durham County Asylum, reported a similar case, that of a woman, æt. 36, labouring under confirmed melancholia, who one day, under the hallucination that she saw her husband outside, smashed a window-frame with a brush-handle and jumped through, falling a height of 24 ft. and alighting on a gravel walk. She fractured her leg and sustained other injuries, but did not lose consciousness, and recovered her soundness of mind on the spot. All her depressed delusions left her, and, in the course of a few weeks, she went home quite well. Sir James Dundas Grant has given me the notes of the case of a man who was wounded at Delville Wood on the Somme in July, 1916, by a bit of an exploding shell. He remembered nothing more until, coming to himself in a train, he found he could hear nothing. He remained deaf until August, 1917, when one night he had a vivid dream that he was going through the shell incident again. In the agitation caused by this dream he fell out of bed and knocked his head on the floor. His mother hearing the noise, came into the room and asked him what was the matter. He heard her question and replied, and has been able to hear perfectly ever since.

One can only speculate as to what went on in the brain in such cases, but assuming that it was not a psychical shock that proved curative, it might be suggested that the change was analogous to the rearrangement of particles and altered electric resistance that takes place in a coherer when it is tapped. The impact broke down morbid cohesions in brain elements, permitting unusual conditions, and then the nerve currents flowed back into their normal channels.

Dr. Feldman has described the case of a woman suffering from trinitrotoluene poisoning, who illustrated the effects of physical shock during suspended brain function. She developed delirium quite suddenly, was restless, and not in her right mind, and then developed twitchings and became semi-conscious, the jaundice being intense. The window just over her bed in the Poplar Hospital was broken by the great explosion in January, 1916, and she sustained a severe shock, and the remarkable feature of the case was that by the next morning she had completely recovered consciousness and was quite natural. On the second day she was much improved, but on the fourth day she had relapsed into the same condition she was in before the explosion.

A severe physical shock had, in this case, a very marked effect on the central nervous system, even during what proved fatal toxæmia.

In recurrent insanity we have, one may suppose, alternating currents, the brain, in which resistance in the synapses in certain tracts and centres normally in relation is for a period increased to the point of blockage, and is then, for another period, relaxed and overcome, and the alternations often take place quite suddenly. Some years ago I visited, with the late Dr. Louis Bockhardt, of Manchester, a lady who suffered from intermittent mania. On one day she was in all respects lucid, calm, rational, intelligent; on the other she was a different being, excited, incoherent, mischievous. This sad sequence had gone on for years when, on one occasion, it was curiously interrupted. The lady, being a German, attached much importance to the domestic observance of Christmas, and Christmas Eve, being her good day, she spent happily with her family. On returning with her nurse to her rooms in the evening she said to Dr. Bockhardt, "I mean to eat my Christmas dinner with my mother at her house to-morrow." "That is not possible," Dr. Bockhardt replied, "for to-morrow is your bad day." "Yes," she said, "but I will tell you how I can manage it. I will make to-day and to-morrow into one day. I shall keep awake all to-night, and I shall be as well as I am now to-morrow morning." She kept her word. She went to bed, remained there quietly the usual time, wide awake, the nurse sitting up with her, and was calm and collected on Christmas morning and dined with her mother on that day. She slept well on Christmas night and awoke the following morning in the state of mental excitement which had been postponed for twenty-four hours. In this case the change in the couplings of the nerve centres corresponding with orderly and disorderly mental action only took place during the suspension of the influence exerted by the higher nerve centres over the lower which takes place in sleep, and the patient, having herself become aware of this, was able by maintaining the activity of the higher centres to put off for a time the running riot of the lower ones. She gave an extension of power to inhibition, but she could not permanently re-establish its authority.

In a moment of bitterness Maudsley once imagined a physician who had spent his life in ministering to the mind diseased looking back sadly on his track, recognising the fact that one-half of the diseased beings he had treated had never got well, and questioning whether he had done real service to his kind in restoring the other half to reproductive work. But it was in no such mood that he provided for the Maudsley Lectureship and Hospital. He must, then, have had faith in the seeds of time and hope in the future of psychological medicine, and it is, I feel sure, in such faith and hope that our speciality accepts his gifts and pursues its mission. The old order changeth everywhere, and the new

order that is taking its place, in our department at any rate, however diverse its methods may be, is alive and in earnest. There is no helpless folding of the hands, nor shruggings of despair, but strenuous endeavour and a confident expectation that much may and will be done to stem the devastating tide of madness and to increase the number of rescues from its troubled waters.

PROCEEDINGS.

The PRESIDENT said it had fallen to his lot to have the honour of presiding at the First Maudsley Lecture. He thought that any of his hearers who contemplated the problems of history would always find it difficult to judge whether any special event, or any particular individual, had had much influence in shaping history. But in this particular case he thought they would have very little doubt. In the years immediately following the publication of *The Origin of Species* there was a great awakening on the subject of the study of psychological medicine, and in this regard two names stood out. One of those was the name of Dr. Maudsley, whom they were now met to honour, and the other was the name of the Lecturer to-day. (Hear, hear.) He did not intend to speak about Dr. Maudsley at all: that was the subject of the Lecture. He wished merely to say, in that regard, that this Lecture was due to his munificence in bequeathing a sum of money for lectures on the subject of mental disorders and allied sciences. Maudsley's life was devoted to the welfare of the insane: posterity was to be benefited by his foresight. In the early years of the West Riding Asylum, 1871 and onwards, under the care of the then Dr. Crichton-Browne, there was a galaxy of talent which had an immense influence upon history. Among the early contributors were David Ferrier, Herbert Major, T. W. MacDowall, Hughlings Jackson, Clifford Allbutt, W. B. Carpenter, Lauder Brunton, John Merson; and this was all organised and arranged by Sir James Crichton-Browne, who was to lecture to this audience to-day. He thought the connection between that and Dr. Maudsley's first book, *Physiology and Pathology of Mind*, which was published in 1867, was interesting. He was sure those two events had much to do with the development of the specialty. He had great pleasure in asking Sir James Crichton-Browne to deliver his address.

Sir JAMES CRICHTON-BROWNE was cordially received and delivered his lecture with an eloquence which always distinguishes his public utterances. His lecture was heard with deep interest and many of his striking passages with much applause.

On its conclusion, the PRESIDENT said the Lecture had been a wonderful one; beautiful thoughts had been expressed in beautiful language, and in a beautiful way. And though they knew there could be no merit in eloquence as such, that there was nothing more than temporary value in a silvery tongue, yet they did know that when this was coupled with penetrating insight and with clear and lucid thinking the result was wonderful, and such it had been to-day. He had been particularly charmed by the note of hopefulness which ran through the Lecture. He believed Sir James Crichton-Browne began the practice of medicine so long ago as 1861, and he was President of this Association more than forty years ago. He had now given a *résumé* of his work and of his thought, which was full of hopefulness to those in the specialty; it was an inspiration to them, and he was sure the audience would wish that Sir James should be cordially thanked for his Lecture. (Applause.) He had one suggestion to make. He believed it was one of the conditions attaching to the Lecture that it should be published in the *Journal of Mental Science*. That, he did not doubt, would be fulfilled, and in that way it would appeal to a very much larger number than could be present to hear it. As this was not now a meeting of the Association, nothing in the way of business could be done, but he proposed to suggest to the Editors of the Journal that the type be kept up until there had been an opportunity for the Council of the Association to come to a decision on that matter. He would like the Lecture to be printed and circulated in pamphlet form, printed on good paper, and circulated widely, so that it would reach a much larger circle than the Journal catered for. He had

the support of the Treasurer and the General Secretary in making the suggestion, and he hoped it would be carried through. In order to give support to the thanks he had ventured to express, he asked Sir George Savage to say a few words.

Sir GEORGE SAVAGE said the duty which fell to him was a very simple one. All who had heard the lecture must have appreciated it from beginning to end, both its matter and the manner of its delivery. The orator who had to speak on such a subject should refer to the man, to his works, and how he was represented by his writings, and, most importantly, the way in which he would look upon the work of to-day. Sir James Crichton-Browne, like the speaker, knew Maudsley for many years, and they recognised his very strong individuality. He was a member of the Reform Club, and he himself had many reforming characteristics. The requirement of him (Sir George), however, on this occasion was not to speak of Maudsley, but to express the feelings of gratitude entertained by this meeting towards Sir James Crichton-Browne for having placed so lucidly before his audience the character of the man and his works. He did not think there was any man better calculated or more suited to give this oration than Sir James; it was the eloquent man discussing the fluent man. Maudsley was not the fluent orator that Sir James was, but he was polished in his written word, just as Sir James was polished in speech. He (Sir George) could not help wondering, towards the close of the lecture, what Maudsley's feelings would have been in regard to psycho-analysis, with what scepticism he would have approached that and the subject of shell-shock. There was nothing so useful to mankind as prudent unbelief. He was sure all present would feel that Sir James Crichton-Browne had inaugurated this oration in a way which was worthy of him.

The vote was carried by acclamation.

Sir JAMES CRICHTON-BROWNE (in reply) thanked the President and Sir George Savage for their kind words. He regarded it as a very honourable compliment, the greatest that had fallen to his lot, to be asked to deliver this lecture to his friends and compeers in that department of medicine with which he (the speaker) had been so long connected. And it was very gratifying to have an old friend like Dr. Bedford Pierce in the chair, because he stood half-way between the old guard to which he himself belonged and the new army which had sprung up and was now so vigorous. Dr. Pierce had shown the wisdom and moderation of the old guard and the originality and enthusiasm of the younger men who were pressing to the front. There were some stipulations connected with the lecturer, and one which should have been imposed in his case was that he should have been compelled to undergo a course of instruction for the Diploma in Psychological Medicine before being called upon to deliver. He would then have been better able to adapt himself to the attitude of younger men with high philosophical and scientific attainments. He had written the lecture under pressure due to other engagements, but he had done it *con amore*, and his pen had run away with him; hence he had, in the reading, left out page after page, with the feeling which occurs to all who have to cut down their own compositions, that he was throwing perhaps the best of his progeny to the wolves. And those excisions might have been more painful to his audience than to himself, for they probably interfered with the consecutiveness of the address. But he wished to express his great gratitude for the patience with which he had been listened to. (Applause.)

Appreciation by the 'Times,' May 21st, 1920.

Sir James Crichton-Browne, the distinguished alienist, called attention yesterday to the "load of lunacy" under which the nation suffers. We are not sure that the figures of lunacy, grave as they are, need be taken to indicate an increase in insanity. There is an idol of the statistician as well as of the market-place; increase and decrease of percentages require scrutiny before they should arouse satisfaction or dismay. With insanity, as with other human afflictions, increased skill in diagnosis, more thorough sifting of the population and the provision of facilities for treatment discover cases that formerly passed unnoticed. Even at present the school attendance officer unearths the idiot child, and the fool of the family is handed over to the county asylum. We may predict with assurance that when more psychiatric clinics are provided, the provision for out-patient treatment extended and the legal formalities connected with certification are reformed, the first result will be an apparent increase in the numbers of the insane. The process

of prevention will reveal the extent of the evil. Everyone will agree on the need of more facilities for the study and treatment of insanity. But alteration of the law regulating the certification of lunatics is sure to arouse suspicion. The putting away of an inconvenient relative by means of a certificate has been a favourite theme of playwrights and novelists, and an occasional case in the Law Courts seems to justify popular dread. Yet there is a strong case for alteration. The existing Lunacy Act protects the liberty of the subject, but does not provide sufficient scope for treatment and cure. The early symptoms of mental disorder often occur before certification is possible. It is during these incipient stages that skilled attention is most successful and most difficult to obtain. The Professor of Psychiatry in the University of Edinburgh recently stated in our columns that Scotland in this respect is more happily placed than England. For more than fifty years mentally-deranged persons in Scotland have been able to receive curative treatment in any house or home without being certified to be insane and without being sent to an asylum. These powers have not been abused, and there is no reason to suspect that they would be abused in England. At the present time, indeed, insane patients are often sent by physicians from England to Scotland to benefit by the more considerate laws. The army authorities during the war arranged that mentally-disordered soldiers should be received into military mental hospitals without orders or certificates, and did not send cases to asylums until mental disability had lasted for nine months and was deemed incurable. Large numbers of men were received in early stages of mental disease and were cured. Authority and practical experience combine to recommend the reform of the Lunacy Law.

The Relation of Infections to Mental Disorders.⁽¹⁾ By W. FORD ROBERTSON, M.D.(Edin.).

SOME of you may remember that, four years ago, I inflicted upon you a paper dealing with almost the same question. It was entitled "Some Examples of Neurotoxic Bacterial Action." Since that time I have continued, in the Laboratory of the Scottish asylums, the practical study of bacterial infections on a fairly wide basis, and I believe it is now possible to define with something approaching exactness the part which such infections play in the causation of mental disorders, including insanity. It can now be shown that this part is a very much larger one than at present is generally believed. The same can, however, be said with equal truth regarding the relation of infections to common maladies.

It is to be remarked, in the first place, that asylum patients, like other persons, may suffer from acute and chronic infections which produce the ordinary results. For example, they are subject to common colds, influenza, pneumonia, bronchitis, dysentery, and tuberculosis, all of which are of bacterial origin. There is now, however, solid ground for the conclusion that bacterial infections have also a special relation to mental disorders. Nevertheless, there are few bacteria, if indeed there are any, that can be said to produce insanity as the characteristic result of their pathogenic action. The special relation is dependent essentially upon a peculiar vulnerability of the central nervous system

⁽¹⁾ A paper read at a meeting of the Scottish Division of the Medico-Psychological Association, November 21st, 1919.

in some persons. This, I believe, is a conclusion that must be accepted by anyone who considers the ascertained facts regarding the incidence of bacterial infection in the insane and in the general population, and the effect of properly directed therapeutic immunisation in both. It is a view that has been expressed before, and never, in my opinion, better than it was by Dr. C. C. Easterbrook⁽²⁾ in the course of the discussion on the psychoses of infection and auto-intoxication at the International Congress of Medicine in 1913. Dr. Easterbrook asked, "Why did only a small proportion of feverish patients become delirious? Why did only a very small proportion of subjects become mentally affected after an attack of fever? Undoubtedly it was the nervous constitution, temperament, disposition, or mental make-up of the patient that made all the difference." In his opinion, "This was the common underlying factor in the ætiology of insanity, and explained why only a relatively small proportion of humanity broke down mentally under the action of the many traumata or stresses that daily affect mankind, including the infections and toxæmias. No one became insane without previously being or becoming neurotic, and the neurotic constitution was manifested in many ways and from various sources of evidence, and especially from the disposition, which perhaps it would be possible to express some day in bio-chemical terms, and so to demonstrate that the neurotic with abnormal chemical affinity of his neurons became a prey to infections and toxæmias." With every word of this pronouncement I agree. If this position is accepted it is evident that, in order to advance our knowledge of the pathology and treatment of insanity, we must investigate not only the exciting causes, but also the predisposing ones. Neither of these two factors is simple—each is, indeed, extremely complex. There are many exciting causes apart from bacterial toxic action, and the predisposing causes are still in many respects obscure and capable of only imperfect analysis. One very important distinction can, however, be made between what we are obliged already to regard as the chief component elements of the predisposing and exciting factors respectively. It is that while we can do little or nothing to alter the inherent qualities of the brain, which are largely fixed by heredity, we can exercise now a very powerful corrective influence upon many of the common toxic conditions that excite mental disorder. Extensive investigation in the laboratory has shown that most of these toxic conditions are bacterial in origin. The invading bacteria can be isolated, and their injurious action is, to an important extent, capable of being controlled by therapeutic immunisation. Hence the subject of bacterial infection has become one of paramount importance in the pathology of insanity, just as it is now one of paramount importance in the pathology of common maladies. Evidence of what I attest can be adduced, and I hope soon to publish it in a systematic and detailed form in a book

on therapeutic immunisation. It is possible to give here only a brief summary. Before I come to this, however, I must endeavour to make clear one or two important points that seems to me must be grasped by anyone who would understand aright the relation of infections to mental disorders.

It should be evident that there is a fundamental difference between the manner in which toxins cause disorder of the mental functions in, for example, acute confusional insanity and dementia præcox during its later stages. The text-books, with one or two exceptions, do not explain this difference. Their general point of view is that of pure psychology, and on purely psychological grounds the matter does not permit of a satisfactory explanation. It can be understood only when the pathology of insanity is considered from a different standpoint altogether, namely, that of general pathology. In an article in Green's *Encyclopædia and Dictionary of Medicine and Surgery*, I have endeavoured to show that the pathology of insanity can be brought into line with general pathology. To the orthodox psychologist this is impossible. The stumbling-block is apparently the absurdity, in his opinion, of presuming to regard mind as merely an expression of the functional activity of the brain, corresponding to the functional activity of the stomach or kidneys. It has been laid down by psychologists that "Brain is not the organ of mind in the sense in which it is the organ of sensori-motor activity," and that "There is no evidence to support the position that mind is a function of the nerve-fibres and nerve-cells." On the contrary, it seems to me that there is no definite evidence of its being anything else; indeed, the view that mind is an expression of the functional activity of the brain, or, more strictly, of the association centres, instead of being absurd, is supported by a mass of anatomical, physiological, and pathological evidence that the psychologists are either unaware of or are incapable of interpreting correctly. For my part I am certain of this, that only by regarding the intellect and emotions as expressions of the functional activity of the association centres can we ever obtain any clear and useful view of the pathogenesis of insanity—clear, because it defines and explains the mode of action of each pathogenetic factor, and useful because it guides us to important therapeutic ends.

With the object of convincing you of the importance and necessity of regarding in a particular way all toxic actions that have to do with the causation of insanity, I must ask you to consider for a moment two other interpretations of familiar facts. The one has regard to the association centres as complex reflex mechanisms, and the other concerns the nature of disease.

Every living thing is the product of two distinct factors—heredity and environment. Heredity is only a moulding force, varying slightly in its potentialities in different stocks in the same species. In co-

operation with environmental forces, it builds up from the germ-cells, a highly complex organism. The individual thus developed is a vital reactive mechanism ; every vital phenomenon it is capable of exhibiting is of the nature of a response to external stimuli. This is true of the being as a whole, of the separate organs and of each cell composing the tissues. For example, the functional activity of a glandular organ, such as the stomach, is purely a response to stimuli from its environment, which includes the other organs and tissues of the body. The same principle applies to the nervous organs, and not only to the lowest, but to the highest. The brain is a reactive mechanism of extreme complexity, commonly elaborated to an extraordinary degree by education. Consciousness we can understand only as a concomitant of reaction in the associative or psychical centres. When we hear the ring of the telephone bell and go to the instrument to answer the call, we perform a series of complex reflex actions induced, firstly, by the sound of the bell, and secondly, by the representations awakened thereby in the psychical centres, and with every step of the series of reactions there flows a stream of consciousness. Normal mental reactions are strictly conditioned by the integrity of the central nervous mechanism. If this mechanism is damaged its functional reactions must be abnormal. The mechanism becomes damaged either by traumatism or as a consequence of disease. We have to consider the nature of disease.

Disease is essentially a reaction on the part of the living body to an inimical force that has penetrated its first line of defence, constituted by the skin and mucous membranes. Pathogenesis is an account of the defensive struggle, of the forces engaged on either side, and of the havoc often wrought in the course of the battle. As results of this struggle and of the exposure of delicate structures to toxic actions, irreparable injury may be sustained by various organs and tissues, in consequence of which their functions are afterwards imperfectly performed and conditions of auto-intoxication are induced. Some tissues have very little power of self-defence, and their escape from injury depends upon their relative invulnerability. If a toxin is circulating in the blood, it will fix itself in any substance with which it has a chemical affinity. Now there are many toxins, and some of them of bacterial origin, that have special affinities for nerve-cells. The liability to be injured by such neurotoxins is, however, not the same in all nerve-cells. There are wide local and individual differences, dependent upon congenital and acquired qualities. Special vulnerability to toxins on the part of the nerve-cells of the association centres in some stocks appears clearly to be at least one important factor included in hereditary predisposition to insanity. Two distinct effects upon the association centres must be recognised. During the height of the toxic action the metabolic processes occurring in these centres are seriously disturbed ;

mental reactions correspondingly are disordered and consequently there is confusion, excitement, depression or stupor. If the toxic action subsides there may be complete recovery on the part of the tissues, in which case the mental reactions again become normal. In other cases there is destruction of many neurons and irreparable injury to many more. The centres are permanently damaged and the mental reactions therefore remain more or less abnormal. Thus regarded, mental disorders are abnormal reactions of an associative mechanism that is damaged by active, or former disease, or by traumatism, or that is defective owing to some developmental fault. We can now understand the fundamental difference in the manner in which toxins cause disorder of the intellectual functions, respectively in acute confusional insanity and in dementia præcox during its later stages. In the first the toxic storm still rages, perverting the metabolism of the nervous centres and therefore also their delicate reactive qualities; in the second the toxic storm has passed over, perhaps many years before, leaving a permanently damaged nervous mechanism which can react only abnormally. The brain of an insane person may be likened to a piano, the intricate mechanism of which is broken, rusted or clogged; the player represents the environment to which it can react. Though his skill is perfect, by fingering the keys he can produce nothing but discord.

If we can regard morbid mental phenomena in this way, we must recognise the enormous practical importance of the many inimical forces that are capable of breaking through the first line of defence of the body and damaging temporarily or permanently the delicate reactive mechanism of the association centres. My present purpose is to consider only one group of such inimical forces, namely, pathogenic bacteria and their toxins. I have already occupied too much of your time, and I shall give merely a summary of the conclusions that the evidence now seems to warrant. This evidence is derived from investigation of the infections in a long series of cases, from the study of focal reactions, which establish the fact of the pathogenic action of the bacterium and often reveal much regarding its special toxic properties, and, lastly, from the observation of the effects of therapeutic immunisation.

As in common maladies the infections are generally complex, though there is frequently a leading one. The most common seats of infection are the mucous membranes of the respiratory, alimentary and genito-urinary tracts.

I will take first one of the minor forms of mental disorder, namely, neurasthenia. In this extremely common malady there are always phobias—pathological exaggerations of protective instincts; there is a constant sense of fatigue, amounting in some cases to complete prostration. The superficial reflexes are exaggerated. Volumes have been written about it during the past three or four years, and the explanations

advocated are, apart from the cases in which there has clearly been physical injury to the brain, almost entirely of a psychological nature. Shell-shock is really cerebral traumatism and should not be confused with neurasthenia. The nervous disturbances following terrifying experiences have also essentially a traumatic pathogenesis, and are capable of being regarded as purely the effect of psychical traumatism. True neurasthenia commonly develops without any of these antecedents, which, however, may precipitate or intensify it. The true cause of neurasthenia is chronic bacterial infection—exactly the factor that a hundred authorities ignore. By far the most common infection is an intestinal one by a neurotoxic micro-organism—an anaërobic diphtheroid bacillus. I have investigated over 100 cases. Focal reactions and the effects of therapeutic immunisation have amply established the relation between this particular infection and the nervous symptoms. A minority of cases is due to other chronic infections, especially by the bacillus of influenza, aërobic diphtheroid bacilli and pneumococci.

I have said that there are no pathogenic bacteria that cause insanity as their characteristic effect. Whilst this is strictly true, the statement comes very near to being falsified by one sub-group. Much evidence has now accumulated to show that some species of diphtheroid bacilli are intensely neurotoxic. They are not nearly so common as the anaërobic intestinal diphtheroids of which I have spoken. Infection by one of these intensely neurotoxic diphtheroids is one of the commonest causes of acute confusional insanity. In some cases of this kind there is what may be termed diphtheroid saturation. Nearly all the mucous membranes are infected by the bacilli. These are being passed into the blood-stream and poured through the kidneys into the urine. Some cases of this kind of infection have served to demonstrate a fact of great practical importance, namely, that psychical traumatism may increase the vulnerability of the nerve-cells and so determine the onset of the acute phase of the mental disorder. Other bacterial causes of acute insanity are *Streptococcus pyogenes*, the bacillus of influenza and the pneumococcus.

The majority of the cases of insanity that I have had an opportunity of studying have been such as would be classed among the affective psychoses. In this group therapeutic immunisation has certainly a wide and profitable field. I have now investigated many cases and have in several carried out a course of therapeutic immunisation myself. It may be said that suppression of existing chronic infections in these cases is attended, as a rule, by recovery from the mental disorder. The chronic infections found include those by various species of neurotoxic diphtheroid bacilli, *Streptococcus pyogenes*, *Streptococcus faecalis hæmolyticus*, pneumococcus, *Bacillus influenzae*, bacillus of Friedländer, the gonococcus, *Bacillus coli communis* and a few others.

Cases of dementia præcox in the active phase of the disease constantly suffer from extremely severe bacterial infections of various kinds. Neurotoxic diphtheroid bacilli are prominent in most; they are found especially in the nasal passages and the genito-urinary and intestinal tracts. Chronic intestinal infections by pneumococci are very common. In several cases made the subject of a general bacteriological investigation and immunised with autogenous vaccines, the progress of the malady appears to have been arrested.

I have no bacteriological data with regard to epilepsy, and I would merely say that in the present position of knowledge investigations of the intestinal flora by anaërobic as well as aërobic methods would probably throw some light on the toxic factor that is undoubtedly present in this malady.

In cases of senile insanity there are always severe chronic bacterial infections. The most vulnerable tissues are those of the cerebral arterial system, and chiefly, though not exclusively, through toxic injury to this the association centres become involved.

Lastly, in dementia paralytica a spirochæte infection of the brain has been shown to be an essential factor. According to the orthodox view, it is the exclusive cause of the disease. Bacterial infections are, however, always added, and they are, I maintain, of equal importance in the pathogenesis of the malady. Spirochæte infection alone of the brain will produce only cerebral syphilis and not dementia paralytica. It is certainly bacterial infection and not the spirochætal one that kills the patient.

(²) Seventeenth International Congress of Medicine, London, 1913. Section XII, Psychiatry; Pt. II, p. 128.

The Psycho-pathology of Alcoholism and Some So-called Alcoholic Psychoses.(¹) By C. STANFORD READ, M.D., Physician to Fisherton House, Salisbury.

THE social problems connected with alcohol are always before us, but social reconstruction after the great war has brought them into greater prominence than ever, while America having gone "dry" and the prohibition campaign starting in this country have brought the question of alcohol home to even the unthinking section of the community. In the past we have had the physiological effects of alcohol put before us almost *ad nauseam*, and everyone is fully aware of the disastrous wide-spread results of excessive drinking. Well-meaning temperance reformers are continually pointing out the intimate relation-

(¹) Read at the South-Western Branch of the Medico-Psychological Association, Portsmouth, April 23rd, 1920.

ship existing between alcoholic excess and illness, crime and pauperism. Not so very long ago in the press, we had the almost amusing incident of a manifesto issued by a list of eminent physicians, who decried its use in medicine, followed not long afterwards by another manifesto signed by an equally eminent catalogue of medical men, who laid much emphasis on the beneficial effects of alcohol as a therapeutic agent. The personal factor is always apt to colour one's views, and I may be no exception to the rule. It is a common fallacy to suppose that science is free from bias and prejudice, but the facts I shall bring before your notice with regard to the relation of alcohol to mental disease will tend to indicate their presence.

Now in order to have an adequate grasp of any problem, it seems evident that its study should be approached from every point of view, yet until recently the psychological aspect of alcohol has been left mainly untouched. The purport of this paper is to dwell superficially on the light that modern psychology has thrown upon the relation existing between alcohol and the psychoses.

It seems feasible at the outset to presume that mankind all over the globe desires and indulges in fermented liquor for some deep-seated reason. Yet we must, on analysis, come to the conclusion that man rationalises freely on this point when he gives his so-called reasons for drinking, and that it is but seldom that the real impulse lies in his consciousness, but that unconscious motivation is at work which in the main has as its object the saving of individual mental pain. Trotter⁽²⁾ on this point says, "Alcoholism almost universally regarded as either, on the one hand, a sin or vice, or, on the other hand, as a disease, there can be little doubt that in fact it is essentially a response to a psychological necessity. In the tragic conflict between what he has been taught to desire and what he is allowed to get man has found in alcohol, as he has found in certain other drugs, a sinister but effective peace-maker, a means of securing, for however short a time, some way out of the prison-house of reality back to the Golden Age. There can be equally little doubt that it is but a comparatively small proportion of the victims of conflict who find a solace in alcohol. The prevalence of alcohol and the punishments entailed by the use of the remedy cannot fail to impress upon us how great must be the number of those whose need was just as great, but who were too ignorant, too cowardly, or perhaps too brave to find a release there."

One must lay stress, too, upon the effects alcohol has in promoting the social instincts and in paralysing the repressing forces of social taboos. The pleasure that emanates from its imbibition is by no means mainly physiological in origin. It also is due largely to the narcotic effect exerted on the higher mental processes, especially social and ethical inhibitory, whereby those, which normally are controlled by these and

kept from consciousness through repression, are released. The mere lessening of inhibition, by which means a man feels a greater freedom of his ego, brings a sense of elation.

In the face of this view-point, the question of prohibition takes on a different aspect. Many of us are inclined to prophecy that total prohibition would tend to cause an increase in varying types of neuroses and psychoses, and regret that instead of such a measure some means were not scientifically advocated to remove where possible the underlying defects that render alcohol a necessity, and an apparent menace to society generally. Ferenczi (³) says, "The one-sided agitation of temperance reformers tries to veil the fact that in the large majority of instances alcoholism is not the cause of neuroses, but the result of them, and a calamitous one. Both individual and social alcoholism can be cured only by the help of psycho-analysis, which discloses the causes of the 'flight into narcosis' and neutralises them. The eradication of alcoholism only signifies an improvement in hygiene. When alcohol is withdrawn, there remains at the disposal of the psyche numerous other paths to the 'flight into disease.' And when, then, psycho-neurotics suffer from anxiety hysteria or dementia præcox instead of from alcoholism, one regrets the enormous expenditure that has been applied against alcoholism, but in the wrong place."

Psycho-analytic investigations have shown that the most important of the repressed impulses released by alcohol is a homosexual one, as is illustrated by the fact that excessive drinking usually takes place only in the presence of the same sex, and by the patent affectionate behaviour between drunken men not uncommonly observed. The great function of the social tea in woman's sphere possibly may indicate to some extent feminine homosexuality in a sublimated form, and it has been suggested that the increased share in the world's work to which woman is adapting herself rapidly may tend to lead her to a greater desire for and indulgence in alcohol. If we accept the Freudian theory that in the early ontogenetic development of every individual a homosexual element is normally present which in after years should and usually becomes sublimated, it is not surprising to see hidden manifestations of this impulse in later life, especially when some factor such as alcohol has destroyed that sublimation. Homosexuality is, however, so abhorrent to the ego-ideal that it can only mainly show itself in a veiled form, or through mental conflict perhaps produce symptoms of mental unsoundness which I shall refer to later. It is true that solitary drinking often exists among dipsomaniacs, in which case there probably exists a deeper regression to an auto-erotic stage where the self is all-sufficient for gratification and the external world shut out.

Other factors, though, besides the homosexual one may have intimate relationship with alcoholism, but study has shown that among the

unconscious impulses to excessive drinking discrepancies in the emotional life and sexual desires are mainly concerned. The tendency to this form of indulgence bears testimony, therefore, to the prevalent defects in our psycho-sexual life of which we are otherwise unaware. The moderate drinker may find his mental conflicts soothed and some components of his desires gratified, but in others where the conflict is severe and the soil psychopathic, alcohol, by aiding regression and annulling sublimation, may help to bring about abnormal symptoms well known to the psychiatrist. Yet, even then we constantly see evidence of psychological compensation to the self. According to the amount of alcohol taken, different degrees of regression may occur, and at the level reached different conflicts may be unearthed.

Pierce Clarke,⁽⁴⁾ of New York, whose analytic researches in mental disease have been so fruitful, points out many other repressed sexual factors which he traces in the alcoholic's symptoms and reactions. He draws attention to the fear and restlessness which introduces so-called dipsomaniac attacks, which, as in other nervous conditions, are rooted in conflicts and repressions of the sexual desires, and sees sex symbols in the certain animals which are always visualised by the alcoholic deliriant. Most baldly do we find a sexual content in the projection symptoms of the so-called alcoholic paranoiac, so that to negate this factor in the ætiology seems an absurdity. Another impulse by no means uncommonly laid bare through alcohol is the aggressive or sadistic one. Through the readiness with which some men will quarrel and fight under its influence, the man in the street has himself been led to think that a man's true character comes out when he is drunk, and has quoted "*In vino veritas.*" Clark states that though fortunately all drinkers do not become criminal, still alcohol permits hidden criminal desires to work out, and thinks that many crimes seem to be discharges of the need of a "howling drunk." Whether the repeated urgency of the alcoholic desire is in any way attributable to the desire to stimulate the erogenous zone of the mouth as some Freudians would think in the case of sweet-sucking and smoking is, I think, a very doubtful theory. Clark, too, surmises that the erotic working of the love potion which plays such a great rôle in mythology is really alcoholic in its nature, and thinks that wine, being often a symbol of conception or fruitfulness, drinking to someone's health is wishing that the life principle in wine may do him good.

That alcoholics are the victims of severe mental conflict certainly is confirmed by their not infrequent attempts at suicide. We know very little of the deeper motivation which impels an individual to attempt his life, but it is probable that it signifies a longing for Nirvana, and involves the furthestmost limit of that flight from reality which in some degree or other tends perhaps to be the most fundamental human trend.

The drunkard's humour is well known. He will never be serious and will turn everything into a joke. This mental attitude is believed to be largely due to the fact that he must keep away from painful complexes which would be apt to come into consciousness did he not adopt such a habit. The affable, joky and hail-fellow-well-met type of patient is not unfamiliar to us in asylums among this class of patient. This compensatory reaction results in the individual becoming oblivious to his degradation, feeling no shame at the loss of the finer feelings he once had, and having no self-reproach for the ruin he may have brought upon himself and others.

Though the ætiological factors connected with alcoholism are manifold, enough has been already said to see that, as psychiatrists, we must no longer be satisfied in future with the banal and superficial explanations of heredity, degeneration, bad educative influences, etc., but see that, in each case, we have an individual problem to face with its own particular life-history, which must be probed and analysed to unearth the sources of the mental unrest which has necessitated alcohol as a refuge.

Let us pass on now to the consideration of some of those abnormal mental states that usually are brought under the grouping of the alcoholic psychoses. Our psychiatric text-books are apt to be extremely conservative, so that the budding student of to-day tends to find therein many superficial and out-of-date conceptions of mental disease which may warp and handicap his future outlook. I refer here mainly to what we may aptly term the "functional" or "biogenetic psychoses." At any rate, the question of alcohol in its relation to mental disease requires much reconsideration when reviewed in the light of modern knowledge. The President of this Association in his Presidential Address in 1918 quoted Sir Robert Armstrong-Jones, who is stated to have said that if only the evils of alcohol and venereal disease were disposed of, then half the problem of insanity would disappear with them. Would that I could think this problem could be so disposed of, even partially. This is precisely the superficial viewpoint I wish to endeavour to combat, and much that has already been said points in a very different direction.

There seems no doubt but that our deductions have been often largely at fault in regarding alcohol as the important causative agent in the production of insanity, incidence being confused with cause, and we now see that it is needful to seek further for more remote and deeper factors. Bevan Lewis, in his studies, showed the relationship existing between poverty, want, anxiety, and associated moral factors and mental derangement. He made a claim of dissociation of alcohol and insanity. He found that the least intemperate communities had the highest rate of pauperism and insanity, while the most intemperate

communities had the lowest rate of pauperism and insanity. That is, when prosperity was greatest and funds for intemperance were available, poverty and mental stress were least and insanity was less prevalent. Statistics from the "wet" and "dry" states in America seem only to confirm this. Mott comes to the conclusion that insanity does not keep pace with the incidence of alcohol, and he has pointed out that hepatic cirrhosis is very rare in asylums, from which fact we may deduce that most people will tolerate any amount of alcohol, up to extensive physical disease, without becoming insane, and that this only happens when there are other important factors present.

Somewhat recent work by Stocker would seem to indicate that alcohol can only bring about acute insanity, and he has shown that the cases of so-called chronic alcoholic insanity of all kinds are really cases of epilepsy, dementia præcox, etc., merely coloured by the added factor of alcoholism. That some acute mental disorders are often caused by excessive drinking is patent, but even here a predisposing functioning must often be present. Such psychoses come little, if at all, into the province of this paper. Nor do I allude in any way to those chronic demented states brought on by long-continued excess in alcohol, and in which the ill-effects are shared by the whole body.

The psychogenic factor is specially prominent in so-called alcoholic hallucinosis and alcoholic paranoia, and it is in these states that the pathogenesis is particularly interesting. Though we always find them grouped under the heading of "alcoholic psychoses," we shall see that there are many factors which should make us doubtful as to the scientific accuracy of this. Certainly from the symptoms portrayed the relation between them and alcohol is nothing like as evident as it is in Korsakow's psychosis or delirium tremens. We find no toxic organic signs, such as tremor, neuritis, and speech defects, while the sensorium is usually unclouded, orientation is undisturbed, memory unimpaired, all or some of which at any rate we should presume to be affected if a potent toxin had been the main ætiological factor. Notwithstanding this, some psychiatrists believe that acute hallucinosis differs only in form from Korsakow's psychosis and delirium tremens. Kraepelin sees no important difference between hallucinosis and delirium tremens, believing that if the more atypical cases of each are studied the more symptoms in common will be found. Bonhöffer has much the same opinion. Bleuler has placed the alcoholic hallucinosis in the category of dementia præcox, and Kraepelin thinks the combination possible and that the rapid development of alcoholism points itself to the disease. We must, however, I think, differentiate these conditions, though we must be prepared to meet with præcox types who have acute mental exacerbations through the influence of alcohol. Much depends on how carefully we study the individual case. Cases have

been reported which failed to recover, and which, though benign at first, eventually were transformed into a serious chronic psychosis not to be differentiated from an ordinary dementia præcox. On the whole, though, the good recovery with insight, the sudden onset, the age of the patient, the general make-up, and the short period of illness, all militate against the so-called alcoholic hallucinosis being classed with dementia præcox. Other observers regard hallucinosis as allied to manic-depressive insanity because cases have been met with where alcohol at one time produced hallucinosis and at others manic attacks, and also because of the personality, the mental precipitating factor, and quick recovery with insight. We need not pursue this nosological discussion further, for it only tends to show the artificiality of our grouping, and how, on deeper study, more and more the various functional psychotic disorders are related.

What I have more in view is to show that the toxin of alcohol is not the main agent in causation but only contributory. We are ever too apt because of the alcoholic history to regard any other element as unworthy of notice, though the most superficial analysis will reveal nearly always an important emotional factor as the real precipitating cause. The patient may have drunk as heavily many times before with no mental ill-effects, but on this occasion with the added psychic factor the hallucinosis is produced, and perhaps after having ceased drinking some days. It is interesting, too, to note that the patient himself often has some idea of the right cause of his breakdown, and he is the more led to do so because the content of his hallucinations has intimate reference to the emotional situation which acted as the psychic trauma. One must also lay great stress on the fact that a precisely similar psychotic picture may be seen where alcohol can be quite excluded as a possible agent. Many observers have drawn attention to this, and Turner⁽⁵⁾ stated ten years ago in speaking of acute hallucinosis, "It is probably within the experience of many who have had a large experience that such a combination of symptoms often arises without alcohol being a factor." Because, then, of the absence of toxi-organic signs, the definite emotional trauma which is practically discoverable in the hallucinatory content, the frequent possibility of excluding alcohol in the history, the onset often occurring some time after alcohol is withdrawn, and the fact that alcohol has often been taken in excess before without mental harm when no mental conflict was present, we must scientifically look upon this hallucinatory condition as of purely psychogenic origin, and not in future group it under the heading of toxic psychoses.⁽⁶⁾ This applies as well to the various paranoid states which are frequently met with and having supposedly an alcoholic origin. In these states we see the well-known psychological mechanism of "projection," which means that the individual projects his inner repressed

desires upon the external world so that he attributes these to others in his environment. Projection is, then, a method of defence, and represents an effort at repression which is only partially successful. Not being able to obliterate the disagreeable desires, the repression does manage more or less completely to prevent the recognition of ownership. That the mechanism is prevalent in our daily life is apparent enough on reflection, but it is seen in its extreme degree in the various paranoid psychoses which often have a distinct relationship to alcohol, this latter being often superficially taken as the sole cause thereof. It has already been stated that Freudian investigators have found that the repressed impulses productive of the paranoiac states are homosexual in nature, and upon this they base their explanations of the various projected delusions or hallucinations which characterise these conditions. The negation and projection of this impulse may thus bring about the morbid states of persecution, jealousy, erotomania and grandeur. Perhaps the most characteristic psycho-pathological result of alcoholism is the delusions of jealousy, which would be accounted for mainly by the psycho-analytic school as follows: By reason of the development of the latent homosexual impulse through probably some emotional situation, the individual's capacity to be attracted by the opposite sex is lessened and he becomes relatively or absolutely impotent, which may be also perhaps augmented by the toxic effect of the alcohol. This feeling of impotency is abhorrent, so that to gain fresh excitation he is tempted to desire, or to actually commit adultery. Through projection he believes that it is his wife who has had this desire, or who has committed the act. The homosexual impulse, only partly repressed, is projected in the same way, and he accuses his wife of being in love with the very men upon whom he has placed his desires—a delusion perhaps later generalised to all men. Alcoholism was not therefore the deeper cause of the paranoiac state, but it was rather that in the insoluble conflict between the conscious heterosexual and repressed homosexual unconscious desires he fled to alcohol as a refuge. This, by sacrificing the sublimations, brought the homosexuality nearer the surface, but the impulses connected with it being so contrary to the ego-ideal, consciousness had to at once keep it away from awareness by means of projection and thus causing delusions of jealousy.

In the late great war I found that paranoid states were particularly frequent among those who became mentally afflicted, and it is interesting to reflect upon the various possible ætiological factors. Some French alienists laid great stress upon alcohol as a causative agent in the war psychoses. Lepine⁽⁷⁾ went so far as to state that it was the primary and sole cause in one-third of his mental cases, and more than half—perhaps two-thirds—were influenced by it. He is supported in his contention by Charon and Hoven.⁽⁸⁾ If the observations and

deductions of these workers are in any way true, and they have not been led away by a conscious or unconscious prejudice against alcohol, I can safely say that the cases met with in the British army have been very different. Reserving under the heading of "alcoholic psychoses" those cases that were purely toxic in nature, my statistics at Netley⁽⁹⁾ only showed a percentage of 1.6, while Eager at the Lord Derby War Hospital found only just over 1 *per cent.*, and remarked thereon that the small percentage of alcoholic cases reflected great credit on the abstinence of our army in the field. In seeming opposition to this, Hotchkis⁽¹⁰⁾ of the Dykebar Hospital, found 18 *per cent.* suffering from alcoholic insanity. He states that this group of his included all the varieties of mental symptoms found in this form of mental disease—as though the term "alcoholic insanity" defined a clear-cut clinical picture. He speaks of cases of delirium tremens and chronic delusional states, and between these two classes those who showed various symptoms such as confusion, depression, subacute excitement, and in practically all cases hallucinations. However, he qualifies his nosological conceptions a good deal by remarking that "though alcoholism was a prominent feature in predisposing to a mental breakdown, of still greater importance was the strain and stress of the campaign, and had it not been for this the breakdown would either never have occurred or would have been postponed." In answer to Hotchkis's findings I can only state that I saw no evidence of the many cases of delirium tremens he speaks of. It is true that a certain number of soldiers broke down very soon after having had leave, some of whom on that occasion had imbibed too freely and others had not. But I aver that the factors mainly causative in the breakdown were certain mental conflicts connected with worry, mainly domestic, brought about while on leave, and not the alcohol with which some of them endeavoured to drown the trouble. The discovery that the wife has been unfaithful, the possible finding of an illegitimate child, the illness of someone near and dear coupled with the dire fact that swift return to the battlefield was imperative and imminent—these were the psychogenic factors that lay at the root of the psychopathic trouble to follow. If instead of using that almost meaningless phrase "stress and strain," which is only useful as a cloak for ignorance, Hotchkis had substituted "mental conflict," his latter remarks which I have just quoted would mostly agree with mine, but they hardly warrant him, in my opinion, placing so many under the heading of "alcoholic insanity," for he definitely states that the alcohol was only predisposing.

In my book on *Military Psychiatry in Peace and War*, I have quoted from my alcoholic paranoid cases in order to illustrate amply the subject-matter of this paper. There I refer to a soldier who had often been crimed for drink while in the army, and who frankly

admitted that he drank freely when on leave shortly before the outbreak of his psychosis because he was so worried, having found his wife unfaithful. It was this psychic factor which tended to render him psychotic. He had drunk as many times before, but retained his mental health when no special mental conflict had been present. I confirm my point of view still more by quoting a case which presented a very similar syndrome, where the psychosis developed after a leave fraught with personal worries—the death of his father and the enforced leaving of an invalid mother—and here no alcoholic history was traceable. Roughly to include these cases under the term “alcoholic psychosis” is clearly hardly defensible. Though I have dwelt upon active service experience, I have only done so because I had in that domain special opportunities for study. My remarks, of course, apply equally to the alcoholic paranoid cases of the civilian.

Dipsomania is an alcoholic disorder that most assuredly has a psychogenic basis. This recurrent and uncontrollable desire for drink, according to Kraepelin and Gaupp, is closely allied to epilepsy, while Ziehen believes, though some dipsomaniacs are of an epileptic nature, others should be placed in the category of periodic melancholia and mania. Here again we see the pity of regarding such conditions as disease entities, and the assumed necessity of fitting them into some recognised nosological pigeon-hole. Juliusburger,⁽¹¹⁾ from the psycho-analytic standpoint, looks deeper, and holds that dipsomania is a peculiar mental state with an underlying psychosexual mechanism and reports analyses in support of his view. Pearce Bailey,⁽¹²⁾ of New York, sees many similarities to epileptic states, such as similar neuropathic antecedents, the quick and exaggerated reaction to even small quantities of spirit, the restlessness and anxiety a short time before the attack, the morbid reproach for long-forgotten misconduct, the premonitory depression, and amnesia for parts of the attack itself. However, he believes that dipsomania can better be explained on some other hypothesis, and that what at first sight seem to be epileptic explosions can frequently be reduced to certain phases of mental disease the clinical characteristics of which soon become blurred by alcohol, or to the influence of some recurring psychic motive.

The probability is that the psychic factors responsible are various and must be studied in each individual case. It is certain that there is always much emotional instability and mental conflict, both of which provoke periodic alcoholic excess.

In this short paper I have endeavoured to point out that as regards many of the so-called alcoholic psychoses we have been far too superficial in our pathological inquiries, and that alcohol largely is only contributory, and more a result of a mental illness than the cause of it. Alcohol is taken to promote the social instincts, and alleviate and

narcotise the many mental conflicts to which we must all to some extent be victims. It thus constitutes itself a psychological necessity in modern civilisation. In excess its effect tends to destroy sublimation and aid mental regression and in this way may help to precipitate a psychosis. The regression may be of various degrees, and thus bring into active conflict with the personality different impulses and desires previously more or less successfully repressed. Of these the homosexual impulse is found by analysis to be the most frequent, the resulting conflict being very liable to result in paranoiac states. A deeper study of the so-called alcoholic hallucinoses and paranoid psychoses reveals psychogenic factors which should be looked upon as the real pathological basis of the abnormalities. It must be noted, too, that by means of alcohol the psyche defends itself against mental pain, pleasure is gained by the freedom from inhibitions, and compensations occur, though so often at the expense of sanity. If such views as I have put forward are in any way true, many of these psychoses should be differently classified. Society, too, must bear in mind the psychological aspect of the drink problem if its solution of it is to be a happy and successful one. Those of us who are academically interested in such a vital subject will watch the results of prohibition in America with intense interest. Karpas, of New York, in speaking of the complexity of mental life and its direct relationship to our longings and cravings, which are determined by conscious and unconscious forces, expressed my views when he summed up the essence of these questions in the following words: "Some of our cravings are gratified; others find realisation in our dreams; still others are repressed and compensated. In fact, our mental life is nothing but a readjustment of complex reactions. The poet finds recourse to his phantasies, the philosopher to his theoretical speculation; the scientist resorts to his inventions and hypothetical theories; the well-balanced normal individual seeks adjustment in healthy activities—art, literature, science, occupations, sports, etc.; but the individual with a poorly endowed constitution finds refuge in neurosis, psychosis, alcoholism, drugs and other vicious habits. We must recognise that the alcoholism is nothing but a compensation for a complex, the fulfilment of which was denied by reality."

Our mental health depends so largely upon our capacity to face the stern realities of life, but how many of us for however short a space of time do not find gratification by dwelling in the land of make-believe? It is by means of alcohol that the stern realities of life can seem for the time less harassing—that our burdens seem lighter. Let us not forget that the underlying motive in all voluntary conduct is the pursuit of a conscious happiness. To so many, and especially those whose emotional life is in conflict, alcohol materially helps towards that goal.

(²) W. Trotter, *Instincts of the Herd in Peace and War*, Fisher Unwin, 1916.
 —(³) S. Ferenczi, *Contributions to Psycho-analysis*, English translation by Ernest Jones, Richard Badger, 1916.—(⁴) Pierce Clark, "A Psychological Study of Alcoholics," *Psycho-analytic Review*, vol. vi, No. 3.—(⁵) John Turner, "Alcoholic Insanity," *Journ. Ment. Sci.*, 1910.—(⁶) For excellent discussions on the alcoholic hallucinosis refer to articles by Carl von A. Schneider, *Psychiatric Bulletin*, vol. ix, No. 1, and by G. H. Kirby, *Psychiatric Bulletin*, vol. ix, No. 3.—(⁷) Jean Lepine, *Troubles mentaux de la guerre*. Paris: Masson, 1917.—(⁸) René Charon, "Psychopathologie de guerre," *Progrès médicale*, June, 1915; Hoven, "Mental Diseases and the War," *Archiv med. Belges*, Paris, May, 1917.—(⁹) C. Stanford Read, *Military Psychiatry in Peace and War*, H. K. Lewis & Co., 1920.—(¹⁰) R. D. Hotchkis, "An Analysis of Cases admitted during the First Year to Dykebar War Hospital," *Journ. Ment. Sci.*, July, 1918.—(¹¹) Otto Juliusburger, "Contributions to the Psychology of the so-called Dipsomania," *Zentralblatt für Psychoanalyse*, July-August, 1912.—(¹²) Pearce Bailey, *Clinical Varieties of Periodic Drinking*, Nervous and Mental Disease Monograph Series, New York, No. 9.

The Significance of Acidosis in Certain Nervous Disorders.⁽¹⁾

By B. H. SHAW, M.D., Medical Superintendent, County Mental Hospital, Stafford.

THE clinical evidence of acidosis is the detection of acetone bodies in the urine. Acetone is formed from diacetic acid by the splitting off of carbonic acid, the origin of diacetic acid being in part from fats and in part from proteins. Oxybutyric acid is also formed from diacetic acid by reduction, consequently the presence of acetone bodies in the urine always means that acidosis is taking place. A delicate test is that known as Rothera's, which is quite simple, and will detect acetone in minute dilution:

To about a gramme of ammonium sulphate in a test-tube add a few cubic centimetres of urine, a couple of drops of a freshly prepared solution of sodium nitroprusside, and a cubic centimetre of strong ammonia. A purple colour develops. Nitroprusside can also be used to detect diacetic acid.

Synchronously with the production of acidosis there is a retarded oxidation as the sodium carbonate of the plasma, which normally carries off the CO₂, tends to be neutralised, and as a result tissue-cells, for their own protection, set free autolytic enzymes of various kinds, which attack the proteins and lipins of the cell itself in order to liberate ammonia, with the object of neutralising the cellular acidity; imbibition of water by the cell-wall now occurs, and the slowing down of all cellular activities; fatigue consequently comes on much sooner with reduced alkalinity.

Acidosis is by no means infrequently met with. The already published literature on the subject gives the following states in which it occurs:

(¹) Read at the Staffordshire Branch meeting of the British Medical Association, February 26th, 1920.

Diabetes mellitus, fevers, nephritis, phosphorus poisoning, fasting, grave anæmias, deranged digestion, auto-intoxication, chloroform and ether anæsthesia, and what is known as biliousness.

I frequently meet it in my practice and many fresh admissions are found to suffer from it. It is especially frequent in acute delirium, melancholia, confusional and stuporose states, and epilepsy. It may indeed very possibly be an important ætiological factor in the production of epileptic states, for reasons to be referred to later. The following notes are taken from two recent deaths, resulting from extreme acidosis :

(1) E. J—, a mischievous, weak-minded boy of impulsive tendencies, æt. 15, admitted in September, 1917. He was well nourished and took his food very well indeed. He had had no fits previously. During the night of December 30th, 1919, he had a severe typical epileptic fit, and lapsed into a condition of cerebral irritation with paresis of his legs and conjunctival injection. Specific gravity of urine 1024; no albumen or sugar, but strongly positive to acetone. He was put on alkaline treatment and improved, the acetonuria disappearing, and he continued to take his food well. On January 10th he again developed strong acetonuria, which did not yield to alkaline treatment, and he died at 9.40 a.m. on the 16th. *Post-mortem*: Intense minute injection of the pia arachnoid in a patchy fashion, especially marked over sulci and along veins, one large patch extending over the vertex of the left hemisphere; numerous punctæ cruentes on section of the cerebral tissue; strong acetone reaction in cerebro-spinal fluid and blood. Microscopical examination showed minute vascular engorgement, diffuse and central chromatolysis of the neurone body and degenerative changes in nuclei—in other words, primary degeneration of the nerve-cell. The suprarenal glands showed some congestion and fat deficiency; other organs apparently normal.

(2) J. H—, a well-developed man, æt. 49, admitted on February 4th in a state of acute confusion, had been ill for six weeks prior to admission. He was, on admission, in a state of restless, noisy excitement, continually wet and dirty, rendering it impossible to collect his urine for examination. He was put on milk and other extra diet, which he took satisfactorily. He was extremely feeble when admitted, became gradually weaker, and died at 2.30 a.m. on the 10th. *Post-mortem*: Cadaver in good condition, marked opacity and thickening of the pia arachnoid with much recent minute injection and patchy ecchymotic areas. Brain tissue showed numerous punctæ cruentes on section. Acetone reaction strongly marked in cerebro-spinal fluid, which was in excess, in pericardial fluid and in the blood. Microscopical examination showed engorgement of vessels with some minute extravasations, diffuse and central chromatolysis of cells, nuclear changes and absence of pigment. Suprarenal glands softened, scanty fat; liver somewhat fatty; other organs normal.

A certain amount of acetone and diacetic acid will be found in ordinary *post-mortem* decomposition, but nothing like the quantity present in the body-fluids in cases of death from acetonæmia. The examination, of course, must be done as soon after death as possible.

In the case of the boy J—, his first fit occurred at a very usual age for the onset of so-called idiopathic epilepsy, also there was in this case no question whatever that inanition had anything to do with the causation; the boy looked after himself very well indeed in that direction.

Dealing with the *post-mortem* appearances in both these cases, I may state that in *post-mortem* examinations on mental cases it is the exception to find a normal transparent pia arachnoid. Secondly,

in long-standing cases of epilepsy almost the only change met with may be a thickening and opacity or milkiness of the pia arachnoid; this thickening and opacity I regard now as most probably due to congestive attacks resulting from acid intoxication. These congested areas are most pronounced over the vertex, where the membrane is thickest and the underlying neurones mainly motor. Thirdly, after death in *status epilepticus* there is intense congestion of the membranes, and the cells show the profound structural changes of primary degeneration—structural changes which I have shown to be also present in the cases mentioned. It is of interest to note here that the meningeal appearances in these cases are very similar to many I have seen in the Balkans as a result of malignant malaria, and in which the symptoms indicated intense toxæmia, no doubt due to deficient oxidation as a result of the destruction of vast numbers of erythrocytes, and also to the hæmoglobin and oxyhæmoglobin set free in the plasma behaving as weak acids. Addison, Lusk, and Graham consider that the rise in heat-production in severe anæmias is due to the pathological production of lactic acid from carbohydrates in consequence of an inadequate supply of oxygen to the cells. Recently I have had two cases of confusion following malignant malaria contracted at Salonica, one of whom had definite acidosis periodically while here.

I will now mention briefly some cases which came recently under my notice:

(1) J. P—, a young woman, æt. 22, single; case of acute delirium of three days' duration prior to admission; *cause*, mental shock; no insanity in family. Acetonuria on admission, sp. gr. 1030, no albumen or sugar present; under treatment practically recovered in three weeks.

(2) D. P—, woman, æt. 47; four previous attacks, first at age of twenty-three, simple melancholia with acute confusional periods, which synchronise with acetonuria; takes her food well, and in good condition. I may say that with her last acetonuric attack tubercle bacilli and slight albumen appeared also in the urine, neither of which can be found now. She responds very well to alkaline treatment.

(3) N. W—, woman, æt. 42; married; acute confusion, acetonuria on admission; *cause*, over-work and worry; history in this case of not taking her food prior to admission. Under treatment.

(4) V. H—, woman, æt. 36, married; melancholia with acute confusional attacks synchronising with acetonuria and responding well to alkaline treatment; always takes her food well; *cause*, worry and mental shock.

(5) E. S—, woman, æt. 48, single, no history; melancholia, acetonuria on admission; takes her food but otherwise very resistive.

(6) E. L. S—, man, æt. 29; stupor; admitted with acetonuria, very intense reaction; on alkaline treatment acidosis cleared up; mental condition not appreciably improved as yet. Possibly the injury to the neurone in this case precludes recovery.

(7) G. H—, æt. 30, military case; confusional mental condition associated with acetonuria, pulmonary tuberculosis also present; *cause* given as stress of campaign.

(8) W. R—, man, æt. 33; violent epileptic; acetonuria present with outbreaks of excitement; slight trace of sugar on one occasion; said to be a heavy drinker.

(9) S. K—, man, æt. 56; simple melancholia; a little while ago got a sudden attack of acute confusion and violence synchronising with strong acetonuria;

much improved under treatment; *cause* given as over-work; always takes his food satisfactorily.

(10) H. P—, boy, æt. 17; strong family history of insanity; father, two brothers and sister have been insane; on admission much acetone present in urine; in a state of acute excitement and quite incoherent; rapidly recovering under alkaline treatment.

(11) F. D—, male, æt. 20; case of masked epilepsy; acetonuria present during attacks.

(12) S. G—, æt. 28; epileptic, very violent, and impulsive; acetonuria during attacks.

In cases which recover it is noteworthy that the improvement synchronises with diminishing acidosis. These are only a few of many cases: For example, acetonuria has been present in ten out of the past twenty-five admissions here and the mental disorder in all ten was of the confusional type. With the exception of four of the above-mentioned cases who were recent admissions, fasting could be excluded as an ætiological factor.

I must now refer to the direct effect of acetone bodies and bile acids *in vitro* on red blood-corpuscles. If red corpuscles are washed and incubated at blood temperature with small dilutions of these substances they are soon hæmolyzed; this simply means disintegration of the cells. Taking into account the other still more destructive ferments present in acidosis, it is obvious that these substances in the blood and body-fluids must have a most irritative and disastrous effect on tissue-cells. This is already evidenced by the degenerative cell changes noted in the *post-mortems* alluded to. If the acidosis is intense or continued for a length of time, or if the patient gets frequent recurrences, permanent damage to the neurones must ensue.

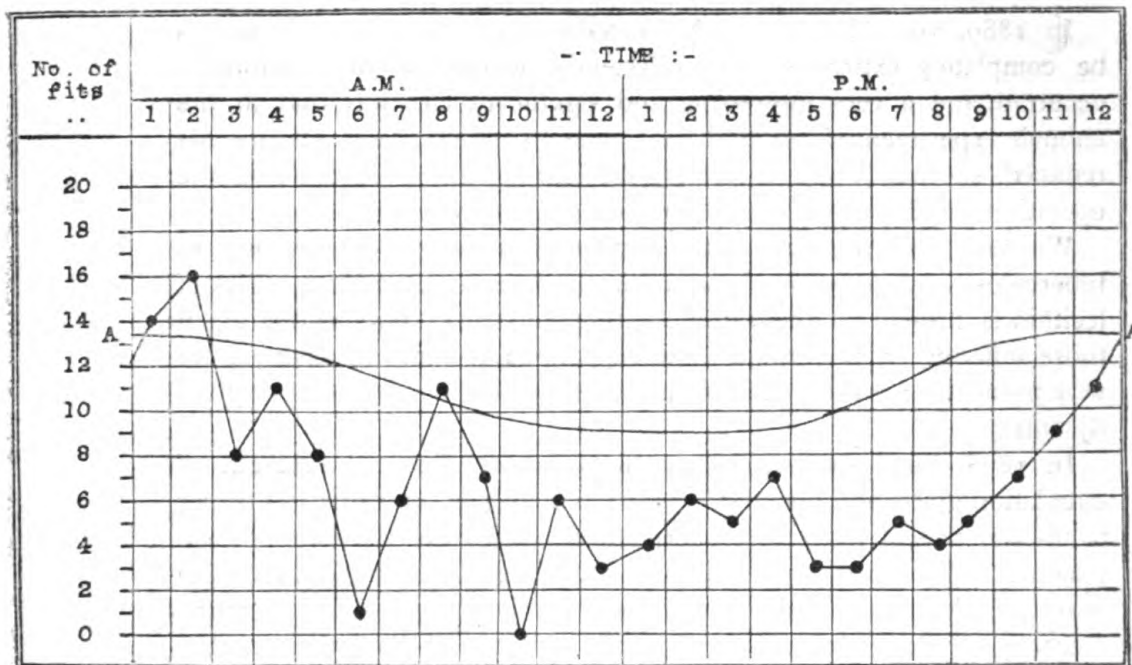
Now, as regards the varying nervous symptoms met with at different ages in acidosis, we have to consider the action of cholesterol, which is very soluble in acetone. The adult human brain contains an extraordinarily large amount of this substance—practically 2 *per cent.* of wet tissue—but in children there is relatively much less; thus, in a child of three months old there is only .69 per cent. It can be shown *in vitro* that this substance has a protective function on erythrocytes with regard to the action of hæmolytic agents such as autolytic ferments and acids. It may therefore be assumed that its presence in the brain in such large amount indicates a similar protective action as regards the delicate neurone; any excess, therefore, of acids or autolytic enzymes in the blood of young persons might readily lead to different nervous symptoms and more serious neuronic irritation than would occur in later years, when more protection would be available for the neurone by the increased amount of cholesterol present. It must be added that the serum of infants is slightly less alkaline than that of adults, and that the carbon dioxide tension in the alveolar air of infants is lower, probably due to more active metabolism.

Referring to ferment action I have found that the diastatic content of urine is increased in acetonuria. Reducing the specific gravity in all cases to 1003, normal urine shows a diastatic reaction of 5 to 10 $\frac{38^\circ}{30}$, that is, when incubated at 38° for 30 minutes 1 c.c. of urine will convert 5 to 10 c.c. of 1 per mille starch solution into sugar. In acetonuria the diastatic content is somewhat higher, reaching at times as much as 25 or even 100 $\frac{38^\circ}{30}$. Again, it has been shown that pancreatic lipase, which is normally present in the blood, becomes hæmolytic if activated by fat; consequently the more fat there is in serum under certain conditions the greater would be the tendency towards cell irritation, such conditions being possibly cholesterol deficiency in the neurones or plasma or excess of circulating ferments. Here I would like to mention that the brain is the only organ in the body which contains no fat.

In reference to this I investigated sera from patients of different types of mental disorder as regards the effects on them of tryptic digestion. The sera were drawn at the same time of day in every case and primarily for syphilitic sera-diagnosis. The method I adopted was digestion of a definite amount of serum with extract of hog pancreas and bile for twenty-four hours at 37° C. and then neutralising with N/50 soda, using phenolphthalein as indicator. My results indicated that the serum in cases of chronic alcoholism, chronic melancholia and epilepsy showed a higher acid content as compared with others. I admit the difficulty of determining end-points accurately in such an investigation, but I took all possible care in the matter and only dealt with the sera by numbers. It is noteworthy that fits will occur in chronic alcoholism in a considerable number of cases. As further evidence of acidosis it may be mentioned that Haig and Krainsky independently determined that there was a marked fall in uric acid excretion prior to a fit, and Charon and Briche showed in 1897 that fits are most frequent during the night time, when the reaction of the blood tends towards acidity.

Reference to the time-incidence graph of fits occurring in this hospital during the past week will illustrate this. Again, it is well known that strongly nitrogenous diet increases the number of fits in epileptics; here again we have evidence of acidosis, for excessive proteid disintegration results in excessive acid production, the sulphur and phosphorus of the broken-down tissues being oxidised to form sulphuric and phosphoric acids, and these together with diacetic and oxybutyric acids neutralise much of the alkali of the blood, with resulting acidosis. This is equivalent to carbonic acid poisoning, and the sodium carbonate of the plasma which normally takes away the CO₂,

from the tissues tends to be neutralised. It has been shown that carbon dioxide causes imbibition of water by the red corpuscles and an increase in their size, hence greater viscosity of the blood and a tendency to stasis in minute capillaries; it has also been shown that carbon dioxide protects these corpuscles and possibly therefore other tissue cells from the action of hæmolysins; it would thus seem possible that the presence of excess of carbon dioxide in the blood naturally resulting from the muscular spasm initiating an epileptic fit may have a certain protective action on the neurone—this is, however, by the way. Having in view the case of the boy E. J—, in which acidosis was



Time-incidence of 160 epileptic fits occurring during the past seven days.
AA. Line indicative of reaction of blood. It normally tends towards acidosis during the late evening, and continues so through the night and early hours of the morning.

undoubtedly responsible for the fit, I have been for a little while back giving alkalis to a number of cases of epilepsy, and already I notice a decided reduction in the number of fits in certain cases. I also interdict salt. It must be remembered that the epileptics I am dealing with are very chronic cases in whom the neurones are educated up to the habit of taking fits on the smallest provocation. The best results are likely to be met with in early cases. It seems to me quite likely that a fit may be caused in early years by a serious attack of acidosis, which may soon pass away, but leave the cells in a certain state of irritation and liable to similar seizures with a succeeding lesser degree of acidosis; very slight stimuli may eventually bring a fit on, especially when a hereditary tendency exists. If this should be so it is of the

utmost importance to recognise the acidosis at once and deal with it before the habit is acquired.

Some six years ago I pointed out that in mental hospitals a high epileptic ratio is constantly associated with a high tuberculosis incidence and *vice versa*; also that associated with a high ratio of epileptics in urban relatively to rural districts is a similarly high infantile and early childhood mortality from tuberculosis, convulsions and atrophy debility and marasmus, and in addition a correspondingly high proportion of occupied married women. In this connection I have to point out that acidosis favours microbic infection as one would expect: thus a large proportion of diabetics die of tuberculosis.

In 1889, von Mering and Minkowsky found that if the pancreas be completely extirpated, hyperglycæmia, glycosuria and acetonuria occurred, and a very interesting and significant fact was that in the animals experimented on vital resistance to infection was enormously reduced, so that it was extremely difficult to avoid infection in the operation or afterwards, and wounds healed slowly.

We may, therefore, take it for granted that acidosis predisposes to tuberculosis. A point worth noting in this connection is that excess of lecithin is present in the serum of tuberculous patients and also in those suffering from chronic insanity. Again, patients in asylums are very prone to microbic infection—witness what is known as asylum dysentery.

In 1898, Biedl showed that by throwing the thoracic duct out of circulation glycosuria resulted. Schaefer suggested that this was owing to the absence of a glycolytic ferment derived from the islets of the pancreas. I suggest, on the basis of amboceptor formation, that the ferment lacking would probably be derived from lymphocytes. Experimentally, Bullock determined that the amount of hæmolytic amboceptor varied directly as the number of mononuclear leucocytes. Now lymphocytosis is a feature of certain diseases, *e.g.*, tuberculosis, typhoid fever and malaria. It has also been shown by several observers to be present in epilepsy. In twenty-one cases of epilepsy—so far as I could judge uncomplicated by tuberculosis—I found a relative lymphocytosis present. This lymphocytosis I consider an evidence of increased ferment action. On this interpretation Biedl's diabetes would result from deficient ferment action owing to absence of lymphocytes; consequently hyperglycæmia will of necessity give rise to increased ferment action associated with reactive lymphocytosis.

In a leader in the *British Medical Journal* of February 14th last, reference is made to an article by Prof. Carmalt Jones, which appeared in *Brain* in 1917, in which he states that in considering a man's nervous system in neurasthenia the only physiological fact which struck him was the presence in the blood of an animal under the influence of fear of an

excess of sugar destined to supply the muscles with energy, and ascribed to increased secretion of adrenalin under the stimulation of the sympathetic; that the adrenals exercise some protective influence over cells so far as autolysis is concerned is shown by the fact that cobra toxin—which is a nervous toxin and hæmolytic to washed human erythrocytes, after being mixed with emulsion of adrenal cortex is rendered inert. It would appear, therefore, that the adrenals, as well as being concerned with sugar elaboration, have antidotal properties as regards autolytic agents; in sympathetic disturbances we may readily get this function in abeyance, and as a result serious interference with cell metabolism and consequent acidosis.

Blum observed in 1901, that subcutaneous or intravenous injections of adrenal extract in animals caused glycosuria. Herter and Wakeman also determined that quite small amounts of adrenalin applied to the pancreas provoked marked glycosuria. Carbohydrate metabolism is therefore apparently under the control of the sympathetic nervous system, as is also the protection of the cell from autolytic ferments. It may therefore be readily understood that disturbance of the sympathetic system may directly bring about a condition of acid intoxication. This may occur as follows:

Fright or anxiety produces hyperglycæmia; this is probably due to stimuli emanating from the brain, passing over the splanchnic nerves in part to the liver, inducing acetone formation and the splitting up of glycogen, and also to the suprarenals, causing a discharge of adrenalin. Constant action of this nature may lead to exhaustion of the adrenal tissue with resulting loss to the organism of the protection normally afforded against agents producing cell-autolysis. Further, adrenalin is *in vitro* readily precipitated by acetone, consequently the presence of acetone in the body-fluids directly inhibits the action of adrenalin.

Degenerative suprarenal changes are very constantly met with in *post-mortems* on the insane. In epilepsy Prior states that out of twenty suprarenal glands examined by him degenerative changes were present in fifteen; also, in addition to adrenalin being readily precipitated by acetone in solution, its normal destruction in the blood is inhibited by any tendency towards acidosis.

As regards a further possible source of acid production, I have been much struck by the frequent occurrence of pyorrhœa alveolaris in certain cases of mental depression and confusion, and have examined as regards sugar fermentation large numbers of streptococci from the roots of extracted teeth in such cases. All these organisms are strongly acid on litmus glucose, while negative on salicin, mannite, and lactose. This is certainly suggestive, and I am at present investigating the results of proper dental and vaccine treatment on such cases.

I wish now to refer briefly to some further experimental work.

Donath, Hahn, Massen, Pablow and Krainsky have found that a small quantity of blood taken from an epileptic who is suffering from a fit produced convulsions immediately when injected into a guinea-pig

or rabbit, but when drawn in the interval between the fits no effect resulted.

Hewlett states that the injection of epileptics' blood into animals is sometimes followed by severe hæmolytic.

Krainsky found carbamic acid present in the blood of epileptics in considerable amount.

As regards the toxic effects of human urine on animals different authorities arrive at various results, as is to be expected, taking into account the amount injected and its varying composition as regards time of excretion, etc. In large quantities normal human urine is toxic to animals. Bouchard demonstrated that the toxic dose corresponded to about 45 c.c. per kilogramme of the animal injected. I have found that urine from a case of acetonuria is strongly toxic when injected into rabbits. The following experiments will illustrate this and also throw light on the treatment.

I took two rabbits—both bucks from the same litter, and each weighing 3 lb. I injected intravenously into No. 1 2 c.c. of urine from a patient suffering from marked acetonuria, with the following result :

In a few minutes he became drowsy and lethargic, taking no notice of food, though previously feeding with avidity. Inco-ordination of hind legs set in and paresis; breathing, at first rapid, became appreciably slower. In half an hour he looked very ill, hunched up, fur ruffled, movement of nostrils spasmodic and slow; remained in one place, resistive to stimuli, shut eyes occasionally. Half an hour later hind-leg paresis had passed off, although still lethargic and disinclined to move.

Into No. 2 rabbit I injected intravenously the same amount of the same urine, but one-third saturated with anhydrous sodium carbonate. This injection had no apparent effect on the animal.

I had previously ascertained that 2 c.c. of normal urine had no effect on a rabbit when injected intravenously.

As regards treatment, in mild cases the indications are rest, warm clothing—in view of the fact that acidosis is nearly always associated with low blood-pressure; sleep, nutritious diet—avoiding fat, and including plenty of carbohydrates, Bynogen, Allenburys' diet, and such artificial foods; free purgation and alkaline medication. Potassium citrate is very useful, as, in addition to the fact that it changes into carbonate in the blood, it provides citric acid, which has the effect of restoring fat metabolism to normal, thereby reducing directly the acetonæmia. This, combined with the carbonates of calcium and lithium and the bicarbonate of soda, makes a very useful prescription. The more bases given the better. Free ventilation is necessary to secure an adequate supply of oxygen.

In a case showing more serious symptoms, complete rest in bed, and in addition to the above, enemata of 20 *per cent.* glucose solutions; while in a severe attack it may be necessary to give glucose or bicarbonate of soda intravenously. It might, indeed, be advantageous to consider gum-saline intravenously, as Bayliss suggested in wound-shock.

Glucose, it must be recollected, may behave as a weak acid in the blood.

Unless absolutely necessary for the provision of sleep, as little drugging as possible and as little disturbance in the way of chatter and interference—the exhausted and damaged neurone has quite enough to put up with. Be firm, and make the patient realise that his is a serious bodily disorder. In all but the mildest cases send the patient to hospital as soon as possible. The acetonuria having disappeared, continue a full dose of the alkali towards evening, and give a mixture of iron and arsenic. The experiments of Crile show that in these conditions strychnine is contra-indicated, as it caused cell changes precisely similar to those resulting from the emotions, toxins and foreign bodies, *viz.*, hyperchromatism succeeded by chromatolysis. With regard to means of control of the kinetic drive, Crile also states :

“Whatever the activation, whether infection, emotion, injury, or Graves's disease, morphine measurably controls the outward phenomena such as pulse-rate, respiratory exchange, sweating, thirst, restlessness, acid excretion, fever, muscular action and pain. . . .”

And it is interesting to note that so far back as 1822 De Quincy, in his *Confessions*, states opium to be—

“ . . . under an argument undeniably plausible alleged by myself, the sole known agent—not for curing when formed but for intercepting whilst likely to be formed—the great English scourge of pulmonary consumption”

He considers that he himself was cured of phthisis between the ages of twenty-two and twenty-four by the regular and continued use of opium. There is at present here a patient, at one time a confirmed epileptic, who was given, many years ago, continuous and gradually increasing doses of opium for a number of years. During this period the fits disappeared, nor have they ever returned, though for a good many years now the opium habit has been broken off.

In conclusion, I wish to draw your attention to—

(1) The profound structural alteration in the neurone caused by acidosis and the extreme danger of permanent injury to it by continuance of the condition or by frequent attacks.

(2) The urgent need of early diagnosis, and the recognition that such cases are very ill indeed and need complete rest and proper treatment or they may become invalids for life and a burden on the community.

(3) The simplicity of the diagnosis.

(4) The fact that, as a rule, acidosis can be readily counteracted by efficient treatment.

(5) The need—in view of acidosis being a probable ætiological factor in epileptic states—for careful investigation, and the probability that, if such is the case, efficient alkaline treatment may cure the condition if recognised at the onset of the fits. The giving of bromides would seem to be dangerous in such a state, as it only tends to dull cellular activities. Later on it may be of use in treating nerve-cells which have acquired vicious habits.

(6) The danger to the patient in not adopting a firm attitude. If such cases are at once sent to hospital before serious mental symptoms come on there would soon be marked diminution in the admission-rate at asylums.

(7) The predisposition to microbic diseases afforded by acidosis, above all to tuberculosis. As regards children, there are questions which can best be answered perhaps by the general practitioner: for instance—What is the relationship between “biliousness” in children and subsequent tuberculosis? Are the sexes equally subject to acidosis? Does it throw any light on the greater mortality of male children? With regard to tuberculosis: Is it a question of the optimum reaction of the medium necessary for the growth of the tubercle bacillus? In other words, do certain individuals, as a result of errors of nutrition or faulty cell-metabolism, offer a more favourable pulmonary or lymphatic culture medium for the growth of the tubercle bacillus than do others?

Finally, is this whole question of acidosis, within limits, at the bottom of what we understand by heredity in respect to disease processes? Is it an effort on the part of the organism in some cases to autolyse itself? All these questions are of extraordinary interest, and the whole subject may bring us vastly nearer a proper comprehension of certain processes which up to the present have been shrouded in mystery.

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An Analysis of 200 Cases of Mental Defect.⁽¹⁾ By J. E. MIDDLE-
 MISS, M.R.C.S.Eng., L.R.C.P.Lond., Medical Officer to the Leeds
 Committee for the Care of Mental Defectives; Late Assistant
 Medical Officer, Gartloch Mental Hospital, N.B.

THE cases dealt with in the present paper came under review during the course of my duties as Medical Officer to the Leeds Committee under the Mental Deficiency Act. They comprise examples of the four varieties of mental defectives defined by that Act, *viz.*, idiots, imbeciles, feeble-minded, and moral imbeciles, and include most of the clinical types described by writers on the subject. The commonly accepted

⁽¹⁾ A paper read at the Annual General Meeting, July 23rd, 1919.

division into primary and secondary groups has been adopted ; a third group, containing cases which appear to combine the characteristics of both types, and a fourth group containing "doubtful" cases, in which the data are insufficient to allocate them definitely, being also added. It has seemed useful, too, to give columns showing the number of cases corresponding to the accepted clinical types, those complicated by epilepsy, those exhibiting pronounced stigmata of degeneration, as well as those showing a definite family history of neuropathic affections, tubercle, or alcohol respectively. It is obvious that many of these cases will figure under the several heads. The following analysis then shows the proportion of cases under each of these heads of the total number of cases examined, *viz.*, 200 :

CLASSIFICATIONS.

| Primary amentia. | Secondary amentia. | Combined primary and secondary. | Doubtful. | Cases associated with epilepsy. | Cases showing stigmata. | Cases showing neuropathic history. | Cases showing alcoholic history. | Cases showing tuberculous history. |
|---------------------|----------------------|---------------------------------|---------------------|---------------------------------|-------------------------|------------------------------------|----------------------------------|------------------------------------|
| 146 73 per cent. | 27 13.5 per cent. | 10 5 per cent. | 17 8.5 per cent. | 58 29 per cent. | 126 63 per cent. | 97 48.5 per cent. | 27 13.5 per cent. | 54 27 per cent. |

| Feeble-minded. | Moral imbeciles. | Imbeciles. | Idiots. | Hydrocephalic. | Cretins. | Mongolians. | Microcephalic. | Sclerotic amentia. |
|----------------------|--------------------|-----------------------|---------------------|------------------|------------------|------------------|--------------------|--------------------|
| 75 37.5 per cent. | 5 2.5 per cent. | 103 51.5 per cent. | 17 8.5 per cent. | 4 2 per cent. | 2 1 per cent. | 8 4 per cent. | 3 1.5 per cent. | 3 1.5 per cent. |

Although the accepted division of cases into primary and secondary amentia is adopted, some reservations have to be made which will, at the same time, explain the inclusion of a third, the "combined" group. It may be said that the classification into two broad divisions was originally adopted in obedience to current procedure. But as the analysis progressed a conviction gradually grew in the writer's mind that such a classification was arbitrary and unsatisfactory, for the following reasons.

The criteria of primary amentia are the following :

- (1) That the mental defect should have dated from birth, in other words, that there should be no period, however short, in which the mentality was normal. (*)
- (2) The frequent association of physical stigmata referred to the various systems, but which may be broadly described as developmental anomalies.
- (3) Evidence of a neuropathic tendency as shown in the family history.
- (4) The absence of history of trauma, including in this term not only accidents (pre-natal, post-natal, and at birth), but such bodily disorders, *e.g.*, meningitis, hemiplegia, epilepsy, etc., as are usually associated with mental defect as a cause.

Cases of secondary amentia, on the other hand, frequently show a period of normal mental development, with the history of a fall, febrile or other illness, from which the symptoms of mental defect date; or, if dating from birth, disclose a history of accident or injury at birth, or of the existence of disease or debilitating influences acting on the child through the mother before birth. In either case the physical anomalies frequently associated with primary defect are wanting; but, on the other hand, there is usually evidence of gross brain-lesion, as exemplified in loss or impairment of function of one or more limbs, associated with alterations in the reflexes or sensory disturbance in the affected parts, tremors, tics, or choreiform movements.

So much for the broad definition of the two types. When one comes to an actual analysis of cases, however, the distinction between the two groups is found to be not nearly so precise and well defined as the above description would suggest. Cases occur, for example, with a definite history of meningitis or encephalitis subsequent to birth, but which are associated with stigmata, such as narrow palate, irregular dentition, malformed ears or cranium, suggesting a primary defect. When, in addition, there is a neuropathic family history and delayed development before the onset of the "illness," the primary factor becomes relatively more prominent. Such cases would accurately be described as combined primary and secondary amentia, and they are by no means uncommon. One is struck, too, by the frequency with which a history of meningitis or convulsive affection occurs (and no doubt plays a causative part in the mental defect) as a complication in cases where there is undoubtedly primary defect. Such cases are generally described as cases of primary amentia complicated by meningitis, epilepsy, hemiplegia, etc. Even in those cases where development appears to have proceeded on normal lines, up to the period of the "illness" the alleged cause of the defect, and where there are few or no stigmata indicating primary deficiency, not infrequently a history is elicited showing undoubted neuronic defect affecting several members of the family and rendering the classification, to say the least of it, doubtful.

CASE I.—The case of H. H.— is one in point. Walking and talking developed at usual age. There was a definite history of some cerebral affection, "inflammation of the brain," at 6 years of age, lasting some weeks, during which he lost his sight and speech. Mental defect noticed subsequently. Ears are large, forehead small and narrow, the cranium generally small in relation to face.

Family history.—(1) Father, said to be mentally slow. (2) One brother, a mental defective in an institution. (3) A second brother, æt. 22, low in intelligence, cannot read or write, poor at figures; vagrant habits. (4) Two other brothers died of infantile convulsions, aged, respectively, 16 and 8 months. (5) A fifth brother, æt. 7, has epileptic fits of major type, infrequent but severe. (6) A paternal uncle died of pulmonary tuberculosis. (7) A maternal uncle (died *circa* 14), a mental defective. Such a case as this is a good example of the difficulty I refer to. The primary neuronic defect as evidenced by the occurrence of amentia and

epilepsy in other members of the family does not need emphasising, and yet superficially it would be described as secondary amentia.

CASE 2.—Another, K.B.—(imbecile), æt. 6, said to be normal up to 3 years, when she developed epileptic fits which continued ever since. One aunt died insane. Another aunt was epileptic and paralysed. She herself shows evidence of left hemiplegia and drags one foot. Superficially this is a secondary ament but might with equal propriety be regarded as primary.

CASE 3.—Another case, I. B.—(imbecile), developed normally up to 6 years of age, when she had a fall. Later minor epilepsy supervened, which gradually merged into major attacks. She exhibited symmetrical malformation of the hands, *vis.*, the little finger and the thumb of each hand were remarkably short. The index was nearly as long as the middle finger, and the ring finger, instead of being next in length to the middle finger as is normally the case, was much shorter than the index. Further, she had a symmetrical cubitus valgus, and signs of right hemiplegia.

History: Father drank. Maternal uncle, æt. 38, is an epileptic and cannot work. Paternal grandfather had epilepsy up to 40 years of age, and died of dementia æt. 72.

Such a case, one would imagine, would come under Tredgold's definition of "Delayed primary amentia."

CASE 4.—Case, L. I.—(imbecile), has never talked. At 3 years of age had a right-sided hemiplegia. Went to bed all right, woke up with loss of use of right arm and leg. Recovered use of leg to some extent but was unable to walk for six months. Has had one or two similar attacks since. Has had "fits" of some kind all her life, chiefly clonic spasms and very frequent, also typical epileptic seizures of major type. Present type post-hemiplegic chorea affecting right side and head. Walks with limp, right arm is flexed and contracted. Bilateral talipes equinus, scoliosis of spine, genu valgum of right side.

Family history.—(1) Father, æt. 41, lately in asylum seven months. (?) Manic-depressive insanity. (2) Brother died, æt. 2, of convulsions. Mental defective. (3) Father's brother has been ill for four years—some form of brain disease, nature unknown. (4) Mother's uncle died, æt. 34. Feeble-minded. Good example of combined type.

CASE 5.—M.A.H.—, walked at 3 years, began to talk at 3. Had "meningitis" twice, once at 1½ years, again at 6. Said to have lost use of legs at the second attack. At the age of 8, epilepsy developed. Fits have continued up to present age (9), (serial type, occurring about once a month).

Description.—Notably anæmic. Head hydrocephaloid and globular in shape. Left internal strabismus. Thorax much deformed. Scoliosis of spine. Double genu valgum. Aortic incompetence, patellar reflex is present slightly. Apart from above, no stigmata.

Family History.—(1) Mother was epileptic; fits set in about menopause. Severe major type. (2) Maternal grandfather, died æt. 70. Epileptic all his life, no mental impairment. (3) Sister, æt. 30, has strabismus and is mentally retarded. Stays at home. (4) Sister, æt. 16, mentally retarded, stays at home.

The two sisters referred to have never gone out to work, and though not examined in detail were obviously subnormal in intelligence.

This also is a good example of the mixed or combined type.

CASE 6.—A. H.—, talked at ordinary age. Not thought to be backward. At 3 years of age had illness described as "congestion of the brain" during which he had convulsions, which have continued ever since, but are now infrequent. Mental defect said to date from this illness. Never recovered speech and did not walk for a year after. Present time: Marked paresis of upper limbs and double genu valgum. Finger-joints are lax and hyper-extensible. Teeth gapped. Fits have decreased in severity and frequency—average about one per annum.

Family History.—Child illegitimate. (1) Mother, epileptic and very nervous. (2) Maternal grandfather epileptic. Fits as a boy, decreasing in severity as he grew older. Died æt. 65. Cerebral softening. (3) Mother's children by another father: (1) Son, æt. 28, in asylum, ? mental defective or insane. (2) Son, æt. 20, well. Has had "brain fever" twice. (3) Son delicate, stammers, æt. 18. (4) Son, died æt. 10 months, convulsions. "Was born blind."

Here, though the history is imperfect, a decidedly neuropathic strain is evident.

The primary character of the defect is evidenced further by the presence of stigmata. Good example of combined type.

Cases might be multiplied indefinitely, but the above are fairly typical and are sufficient to show the artificiality of the distinction between primary and secondary type as usually defined. The fact is, one encounters every degree and variety of combination of the primary and secondary factors, ranging from a comparatively pure primary type in which the inherent defect is the outstanding feature, to the type in which it may be almost if not quite excluded. Moreover there is reason to believe that the tendency to develop toxic inflammatory or vascular affections of the cerebrum or meninges is considerably greater in members of neuropathic families than in normal individuals. At any rate one is impressed by the frequent occurrence of such affections in the family history of aments, whether associated or not with normal development prior to such attack. The coincidence of similar affections in other members of the same family, the frequent association with insanity, epilepsy or amentia, as shown in the direct or collateral lines, suggest more than a chance relationship between the two.

Similarly with regard to epilepsy as a causative factor. Epilepsy itself being the expression of a primary neuronie defect⁽³⁾—even recent metabolic theories do not traverse this point of view,—it seems rather absurd to distinguish a type of amentia as epileptic amentia, meaning by that secondary to epilepsy. Again it is only a question of degree, and such cases may be regarded as primary aments “at the second remove.” For example, where there is a definite family history of neuropathic affection, including perhaps epilepsy, and where epilepsy develops at some period during childhood, it is difficult to exclude a primary defect of the nervous system, even though mental defect as such may not have been manifest before the onset of fits. On the whole, a broad division of cases into two main types—*viz.* (1) cases which have a decided neuropathic strain as shown by the family history, and (2) cases which do not—would prove more useful than the present one of primary and secondary.

It must be remembered in this connection that the presence of stigmata is only useful in so far as it implies injury to the germ-plasm or to the foetus, but this, as a recent writer (3) suggests, may be due, not to primary defect, but to constitutional disease, and especially to syphilis. If this contention is correct, many of the cases hitherto regarded as primary in origin will eventually come under the category of secondary amentia. Further, when one considers the cases of Mongolism and certain other types associated with a condition of infantilism and hitherto included in the primary group, which are probably dependent on some disturbance of function of the endocrine glands, it is evident that

many other cases which satisfy the present definition of primary amentia will eventually have to be relegated to the secondary group.

RELATIONSHIP OF AMENTIA TO EPILEPSY.

Of the 200 cases dealt with, no less than 58 (or 29 *per cent.*) have suffered from epilepsy at some period of their lives, which differs very little from Sherlock's (4) figures. Out of a total of 1,600 mental defectives examined, this writer found 466 (or approximately 29 *per cent.*) epileptics.

As might be expected, the fits, though broadly designated epileptic, included all known types, *viz.* major, minor, Jacksonian or focal, nocturnal, diurnal, or combined, and occurred singly or serially, or occasionally as a *status epilepticus*. In a certain proportion of cases the fits started at the second or third year of life, and diminished in frequency and severity as the child grew older, in many cases ceasing altogether. In a small proportion of cases the fits increased in severity with the age. In a considerable number epilepsy started with an acute febrile illness, in which the child became more or less comatose, and which left it with a monoplegia, paraplegia, or hemiplegia, and gross mental deterioration. In most of the cases the mental defect was dated from and was attributed to the febrile illness, and clinically they would come under the class of secondary amentia. Some of these gave a subsequent history of Jacksonian or focal epilepsy affecting the paralysed or paretic limbs, with gradual transition into ordinary major attacks. It should be mentioned that a considerable proportion of the cases gave a history of infantile convulsions gradually merging into true epileptic attacks.

Considering the large proportion of the total number examined in which fits occurred some time in their career, the number in which epilepsy could be definitely assigned a causative rôle was negligibly small. In by far the larger number, epilepsy was merely an accompaniment, or occurred in conjunction with amentia as a sequel of gross brain disease.

Tredgold (5), it may be remarked, in his series of cases, found that not more than 3.5 *per cent.* of aments owed their defect to epilepsy, this being an approximate estimate.

Apart from the fact that at the time of examination (usually from the ninth to tenth year in my series) the fits had often ceased, or were at least more infrequent; the characteristic appearance and features of idiopathic epilepsy were notably absent, *viz.* the mental hebetude, slow mental reaction, so-called epileptic facies, and dull, torpid expression. In short, the clinical picture presented, however diverse in detail, conformed rather to the ament type than to the chronic epileptic. It was notable that in a few isolated cases in which one would infallibly

have diagnosed epilepsy without any knowledge of the previous history, the fits had supervened comparatively late (at or about puberty). Moreover the history shows a fair development of intelligence up to the onset of the fits, followed by progressive deterioration and loss of such mental functions as had been acquired.

Although, as has been stated above, the causal relationship between epilepsy and amentia is comparatively negligible, the close association between the two conditions is of such universal recognition that it calls for further discussion.

The following analysis shows the distribution of epilepsy in relation to the three main classes of aments. There were no cases amongst moral imbeciles.

For purposes of comparison, the corresponding percentage distribution is shown for the whole number of cases examined.

| | Epileptic. | | | Aments. | |
|-------------------|------------|----------------|---|---------|----------------|
| Feeble-minded . | 13 | 22.4 per cent. | . | 75 | 37.5 per cent. |
| Imbeciles . | 35 | 60.3 „ | . | 103 | 51.5 „ |
| Idiots . | 10 | 17.3 „ | . | 17 | 8.5 „ |
| Moral imbeciles . | — | — „ | . | 5 | 2.5 „ |
| Total . | 58 | 100.0 „ | . | 200 | 100.0 „ |

It will be noted that the incidence of epilepsy amongst the three types of aments is relatively higher amongst the imbeciles and idiots and lower in the feeble-minded than one would expect if all the types were equally affected. Moreover the disparity is greatest in the case of the idiot class, the percentage of cases having epilepsy being more than double as many as there would be on the basis of an equal distribution. This is shown more clearly in the following analysis, which shows the proportion in which epilepsy occurs in each group :

| Total number of idiots examined. | Idiots with epilepsy. | Percentage. |
|---|------------------------------|-------------|
| 17 | 10 | 59.0 |
| Total number of imbeciles examined. | Imbeciles with epilepsy. | Percentage. |
| 103 | 35 | 34.0 |
| Total number of feeble-minded examined. | Feeble-minded with epilepsy. | Percentage. |
| 75 | 13 | 17.3 |

These figures may be compared with Tredgold's (6), who found that convulsions occurred in 11 per cent. of the feeble-minded, 42 per cent. of imbeciles, and 56 per cent. of idiots (all institution cases). The greater incidence of epilepsy amongst the most degenerate types of

aments is, of course, only what one would expect, and is here shown to increase progressively the lower one descends in the scale of development. This also accords with Shaw Bolton's conclusions (7), who found in 94 cases of low-grade amentia 37.2 *per cent.* of epilepsy as compared with 189 cases of high-grade amentia with 12.7 *per cent.* of epilepsy. Again, he found a larger proportion of cases of epilepsy in aments with marked stigmata of degeneration than in those without. It must be borne in mind that the term "low-grade" amentia, as used by this writer, includes all the three types—feeble-minded, imbeciles, and idiots—and is not limited to the lower grades. Similarly the "high-grade" aments, as defined by him, comprise cases of mental disease which do not come within the provisions of the Mental Deficiency Act, and are not commonly regarded as mental defectives, but (8) "which form the connecting link between the mildest type of imbecile (the mental defective of the non-alienist) on the one hand, and the ordinary 'sane' individual of average intelligence and mental stability on the other," and which therefore differ only in degree from the cases here discussed.

As regards the period of onset of fits, in more than two-thirds of the cases (40 out of 58) the fits started before the age of four years, and in less than half (32 out of 58) either ceased altogether after a variable period, or diminished in frequency and severity. As before stated, the fits are of the most varying type, both in character and in severity, ranging from a minor convulsion affecting part of the body, to a typical major fit. Quite frequently there is a history of ordinary infantile convulsions gradually merging into true epilepsy, or there may be minor attacks followed by or alternating with major attacks. At different periods one type or other may predominate; there may be remissions for a long interval, or a combination of typical attacks with localised clonic spasms between the attacks. Some cases again are associated with chorea, athetoid movements, or motor tics.

Perhaps the most striking feature of the convulsive seizures of the ament is their association with an attack of encephalitis or meningitis occurring during the first few years of life. Sometimes there is a history of "fits," more or less severe, starting in infancy and culminating in a definite illness which marks an epoch in the child's career and in the mind of the relatives, and therefore is generally remembered. (I say this advisedly, because it is always a difficult matter to obtain a correct medical history from relatives, who frequently are uneducated and apt to romance.)

The history is, as a rule, that the child was suddenly taken ill, had a series of "fits," lay unconscious for several days, and subsequently was found to have deteriorated mentally, not infrequently being paralysed, and having lost whatever mental acquirements it may have attained.

Very often, indeed, the mental defect is referred to the illness. Where there have been no "fits" previous to the illness, they generally supervene, becoming less frequent and less severe as the child grows older, and frequently, as stated above, ceasing altogether later in life. Occasionally one gets a history of two or more attacks of this type, each so definite as to have memorised the date in the mind of the relatives. Apart from the marked mental arrest which ensues from such an attack, there is frequently a loss of the power of speech and partial or complete paralysis of one or more limbs. It is generally recognised, of course, that encephalitis or meningo-encephalitis occurring in infancy is one of the causes of secondary amentia. Tredgold, in his authoritative work (9), describes the underlying pathological process "as either a lepto-meningitis or a polio-encephalitis (as described by Strümpell), and, as pointed out by Oppenheim, the latter closely resembles the acute inflammation which occurs in the anterior horns of the spinal cord."

On this point Col. E. Farquhar Buzzard, in a recent paper (10), may be quoted as follows: "He thought that the medical profession had never realised that encephalitis or inflammation of the brain was by no means an uncommon condition. He was convinced from his own experience that a large number of cases of epilepsy, of mental deficiency, of hemiplegia, and of diplegia were the permanent results of attacks of encephalitis occurring in early childhood, many of these disabilities dating from an illness occurring in the first few years of life, the history being that a healthy child had been taken ill suddenly with convulsions, fever, vomiting, etc., and that the diagnosis of meningitis, gastritis, or teething had usually been made; he thought that this large group of cases could be properly attributed to the virus of poliomyelitis." There is reason, therefore, to believe that such sudden illnesses during early childhood are due to a definite infection of the encephalon. The points I wish to emphasise, however, are the following: that unless a careful and searching inquiry be made into the previous history of the case the occurrence of such an affection may be overlooked; that these affections are frequently preceded by and nearly always followed by "fits" of some type, and are therefore loosely designated as epilepsy; and finally (for reasons given in an earlier part of this paper) that aments in general, and especially the lower grades, are peculiarly liable to toxic and infective affections of the encephalon. So far indeed from occurring in a previously healthy child, there is good reason to believe that convulsive disorders which affect aments, whether of the idiopathic or infective type, attack particularly individuals with a pronounced neuropathic ancestry, and are largely the physical expression of a subnormal cerebral development.

An analysis of the cases included in the present series will perhaps make the matter clear. Of the 200 aments examined, no less than 65

(that is, 32·5 *per cent.*) had convulsive disorders of one type or another at some period in their lives. Of these 55 showed on investigation marked stigmata of degeneration or evidence of a neuropathic ancestry either in the direct or collateral lines. Frequently both conditions obtained or were associated with a family history of tuberculosis.

| Aments suffering from convulsive disorders. | Aments suffering from convulsive disorders and with neuropathic ancestry. | Aments suffering from convulsive disorders and showing stigmata. | Aments suffering from convulsive disorders and with tuberculous ancestry. | Aments with convulsive disorders and neuropathic and tuberculous ancestry. |
|---|---|--|---|--|
| Total number, 65 (32·5 <i>per cent.</i> of cases examined.) | 38 (58·4 <i>per cent.</i>) | 42 (64·6 <i>per cent.</i>) | 20 (30·8 <i>per cent.</i>) | 10 (15·4 <i>per cent.</i>) |
| Total number of aments examined. | Total number of aments with neuropathic ancestry. | Total number of aments showing stigmata. | Total number of aments with tuberculous ancestry. | |
| 200 | 97 (48·5 <i>per cent.</i>) | 126 (63 <i>per cent.</i>) | 54 (27 <i>per cent.</i>) | |

The lower columns give the total number of cases examined, with the corresponding figures and percentages for each group except the last.

It will be noted that the percentage of cases with a neuropathic inheritance is considerably higher in the convulsive group than in the whole series. As it has been shown above that it is the lower type of ament (idiot or imbecile) which is more prone to convulsive disorders, which type is presumably more likely to be the offspring of neuropathic progenitors, this is only what might be expected. One would expect, however, on a similar reasoning, that the percentage incidence of stigmata would be much higher in the convulsive group than in the general series, instead of which it is very little higher, there being only 64·6 *per cent.* in the former as against 63 *per cent.* in the latter. The disparity in the figures may partly be accounted for by the fact that the criteria as to what constitutes stigmata was not quite the same in the two groups of cases. The convulsive group, for instance, included a number of cases of encephalitis with secondary paralysis and contractions. These were not included as stigmata. In the general group the number showing stigmata was swelled by the inclusion of some such cases. The differentiation between physical anomalies due to injury and mal-development of the germ-cell and those due to gross cerebral disease occurring after birth is admittedly difficult, and the fact referred to would in any case only partially explain the disparity in the figures mentioned above.

One must guard against attributing to the figures too great a signifi-

cance, but the suggestion offers itself that the form of inheritance which results in the proclivity to convulsive affections, though neuropathic in character, may differ in degree and in type from that which results in those gross anomalies of anatomical structure and of function which are regarded as stigmata of degeneration. In other words the type of ament with gross stigmata may represent a lower grade in the scale of neuronc defect than the one which exhibits convulsive disorders. The matter will be referred to later when the question of neuropathic ancestry in general is discussed.

Of the total number of 65 cases, 24 presented evidence both of stigmata and of neuropathic history, and 20 (32·8 *per cent.*) gave a history of familial tuberculosis. This latter may be compared with the figures for the whole series examined, *viz.*, 24 *per cent.*, and again with the percentage of normal children as given by Potts (11) and quoted by Tredgold, *viz.*, 17 *per cent.* Of the 20 with a history of tuberculosis, 7 gave no other history, 9 gave a neuropathic history in addition, 2 showed also a neuropathic and an alcoholic strain, and finally 2 disclosed alcoholism as the only additional factor. Altogether 7 cases gave a history of alcoholism, either alone or complicated by tuberculosis or neurosis.

NEUROPATHIC INHERITANCE.

A slight acquaintance with the family history of aments establishes the prominence and importance of a neuropathic ancestry, and in the series here dealt with one has a definite history of some form of neurosis or psychoneurosis in either the direct or collateral lines in no less than 97 cases (48·5 *per cent.*). There is every reason to believe that this represents a decided under-estimate of the conditions actually obtaining. The difficulty of obtaining an approximately accurate family history even in cases of physical disease is recognised by all inquirers. In the type of case before us this difficulty is enhanced for various reasons. Firstly, the informant is himself frequently an illiterate person and often of subnormal intelligence; secondly, there is a natural tendency to conceal or gloss over incidents or illnesses which are associated with a certain social stigma, or at the best an implication of inferiority; and lastly the history, to be of any value, must go back at least two generations, and for that very reason is frequently fragmentary, vague and inconclusive. The figures here given represent then the minimum number of cases with admitted neuropathic inheritance, either direct or collateral, and must be read in the light of this limitation. Neuropathic ancestry here includes not only amentia, epilepsy and insanity, but also such minor neuroses as chorea, neurasthenia, motor tics, etc., and also cases exhibiting pronounced criminal or immoral propensities, where there is no direct evidence of neuropathic affections as such. Alcoholism as

an antecedent factor is dealt with separately, although it is recognised that it is in many cases merely an indication of the neuropathic constitution, and should in such cases be included also under this head.

The figures here given may be compared with the corresponding figures of various writers. These, as quoted by Tredgold (12), range from 24 *per cent.* (Beach and Shuttleworth) to 65 *per cent.* (Goddard). Tredgold himself found a neuropathic inheritance in over 80 *per cent.* of cases (13). "In 64.5 *per cent.* the ancestral conditions took the form of amentia, insanity, or epilepsy, whilst in 18 *per cent.* they consisted in a marked family tendency to paralysis, cerebral hæmorrhage or various neuroses and psychoses." Other authorities quoted by Tredgold (14) include Lapage (48.4 *per cent.* of feeble-minded children in Manchester special schools with neuropathic inheritance), Dr. W. A. Potts, 45.6 *per cent.* of children in Birmingham special schools, and a Commission appointed by the Legislature of Connecticut who found neuropathic heredity to be the undoubted cause in 65 *per cent.* of cases.

It may be noted that Goddard (15), in his work "Feeble-mindedness: Its Causes and Consequences," found (1) feeble-minded ancestry in 54 *per cent.* of 300 cases, (2) 11.3 *per cent.* which he groups as "Probably Hereditary," also with feeble-minded ancestry, and (3) 12 *per cent.* with neuropathic ancestry, whose family history shows relatives suffering from various brain affections, such as paralysis, apoplexy, "brain disease" and the like, epilepsy, insanity (so described), blindness, deafness, and other neurotic conditions. If all these groups be included under neuropathic ancestry, the total amounts to 77.3 *per cent.*, which approximates to Tredgold's estimate of 80 *per cent.*

The figures quoted are not strictly comparable. Those for the children in special schools, for example, include a disproportionate number of low-grade aments, as in my experience a considerable proportion prove incapable of being educated even in a special school. Again, Goddard, in his series, gives particulars of on an average 200 or more individuals in one family. Tredgold conducted a similar exhaustive research in the case of 200 individuals. It is probable that the searching inquiries of these two writers would account for their higher figures.

Apart from the incidence of a neuropathic history, it must be remembered in this connection that a calculation of the actual number of cases with neurotic strain gives only a relative estimate of the importance of this factor. It takes no account, for instance, of the number of individuals with mental affection in a given family, or the degree to which they are affected. This, of course, can only be shown by genealogical tables. A family with several individuals suffering from psychoses or epilepsy has obviously a much stronger neurotic strain than a family with one such member, but this fact would not emerge

where the ordinary methods were employed. A proper quantitative estimate of the neuropathic inheritance would necessarily take account of these facts.

Apart from the actual incidence of neuropathic ancestry in the whole group of cases, it is interesting to study its relative incidence in the three grades, *viz.*, feeble-minded, imbeciles, and idiots.

Of the 97 cases showing a neuropathic strain 39 were feeble-minded, 50 imbeciles, 7 idiots, and one moral imbecile. If the neuropathic inheritance were evenly distributed through the different grades the figures would be: feeble-minded, 36.4; imbeciles, 49.9; idiots, 8.3; moral imbeciles, 2.4, which is approximately what one finds to be the case. If anything the discrepancy in the two series suggests that the neuropathic factor assumes a greater significance the higher one ascends in the type of amentia, instead of a lesser as one might expect. It would be interesting to know whether these findings would be confirmed if a larger number of cases were analysed.

The moral imbecile class may for this purpose be excluded, as they are hardly comparable, differing as they do from the other types qualitatively rather than quantitatively.

ALCOHOLIC INHERITANCE.

Of the total 200 cases examined only 30 (15 *per cent.*) gave a definite history of familial alcoholism. What has been said with regard to the obtaining of authentic records applies here with even greater force. Apart from the reluctance to admit an addiction to alcohol, there is the personal factor, which varies with each observer, to take into consideration. Data are frequently vague and difficult to standardise, and are further vitiated by the varying interpretations given to the same data by different observers. Here, again, the number quoted represents the absolute minimum and may be regarded as a considerable under-estimate.

The numerical incidence of alcoholism in the different groups is as follows: feeble-minded, 14; imbeciles, 12; idiots, 3; moral imbeciles, 1. If alcoholism were evenly distributed through the groups the numbers would be: feeble-minded, 11.2; imbeciles, 15.4; idiots, 2.5; moral imbeciles, .75. One finds, therefore, that alcohol as a factor plays a relatively greater *role* in the case of the feeble-minded and a lesser one in the case of the imbeciles, whereas in the case of the idiot and moral imbecile the distribution is approximately proportionate.

STIGMATA OF DEGENERATION.

The term "stigmata," as here used, includes all those anomalies of structure and of function which are so frequently found in association

with amentia, as to suggest that they are part of the germinal blight of which the mental defect is itself only a special manifestation. They mostly date from birth or from the early developmental period, and do not include those structural deformities and imperfections which occur in secondary amentia as the sequelæ of gross organic disease of the cerebrum. The distinction may appear somewhat artificial and in practice is a little difficult, but in many cases the clinical picture presented and the definite history of onset enable one to decide as to the nature of the defect.

Numerical incidence.—Of the total number of aments under review (200), no less than 126 (63 *per cent.*) present stigmata. In the great majority of the cases these are multiple in character, and very few cases are included which do not exhibit more than one stigma. Their numerical distribution among the four types of aments is as follows: Feeble-minded, 37; imbeciles, 71; idiots, 15; moral imbeciles, 3. If the stigmata of degeneration were distributed proportionately through the different types according to the prevalence of each type, the incidence would be as follows: Feeble-minded, 47.25; imbeciles, 64.9; idiots, 10.7; moral imbeciles, 3.1.

It will be seen, therefore, that the number of moral imbeciles presenting stigmata is approximately what it would be with a proportional distribution; in the idiot class it is much greater (nearly 40 *per cent.*), in the imbecile class it is a good deal greater (9.4 *per cent.*), whilst in the feeble-minded class it is much less (21.7 *per cent.*). In other words, excluding the moral imbecile class, the incidence of stigmata shows a steady rise as one passes from the higher grade to the lower grade ament. This accords with the findings of most writers on the subject, who agree in regarding the presence of stigmata as a measure of the degree of neuronic degeneration.

CHARACTER OF STIGMATA.

The anatomical anomalies encountered may be classified as follows:

(1) *Variations in the shape of the external ear.*—(a) Asymmetry of the ears: This is perhaps the commonest anomaly met with, and is almost invariably associated with bilateral deformity. That is to say, one rarely finds that either ear approximates to the normal. Where both are deformed, the deformity is greater on one side than the other, or is of a different type. In my experience asymmetry of the external ear is more frequent than gross deformity and has at least as great a significance.

(b) Abnormally shaped ears: These include ears which are too large or too small relatively to the size of the head, ears which project laterally, and ears whose abnormality consists in variations in the shape and development of the various folds and hollows which constitute the normal contour. Perhaps the commonest deviation is in the helix, which may be hardly developed at all, resulting in a thin-edged ear, especially at the tip. Again, the incurved helix may be compressed or flattened on itself, and when this is the case the compression or flattening is rarely equal on the two sides. This represents the commonest type of asymmetrical ear. Another type commonly met with is the long, narrow ear, where the disparity between the vertical and horizontal diameters is greater than usual although other-

wise the ear may be normal. An excessive development of the concha at the expense of the anti-helix, so that the fossa triangularis, fossa scaphoidea and the concha become one common cavity is frequently seen. This type of ear in the writer's experience usually projects laterally. The lobules may be almost absent, abnormally large, or adherent to any degree. In one case the scaphoid fossa was continued as a groove into the lobule, which was not so full and pendulous as usual. The case was a Mongolian imbecile who presented the typical stigmata, the ear abnormality being bilateral.

(2) *Variations in the hard palate.*—These include varying degrees of highly-arched and narrow palates. The great majority of highly-arched palates are also narrow, the narrowing being much more pronounced in front than behind. In a majority of cases the narrow palate becomes progressively more narrow as one approaches the incisor teeth.

In a number of cases there is a sudden narrowing about the level of the first molar.

In both types there is overcrowding of the canine and incisor teeth. Occasionally one sees a broad flat palate, where the arching is subnormal.

There was no case of cleft palate in the series.

(3) *Variations in the face and jaws.*—Prognathism, receding chin, loose gaping mouths are commonly seen, as also are flattening or absence of the bridge of the nose. Unusual patency or direction of the nostrils, so that the latter look forwards rather than downwards, are met in special types. The same may be said of the radial striæ or grooves seen in the lips of the Mongol imbeciles. Close setting of the eyes, the obliquity of the palpebral fissures of the Mongol and the presence of the epicanthic fold require mention.

Skin affections of the face, especially dryness or seborrhœic dermatitis, are unusually common. Adenoma sebaceum is rarely seen and is not necessarily associated with mental defect. In a typical case seen by the writer the child, an epileptic imbecile, had had the disease from three years of age. His mother, a woman of average intelligence, had also had the complaint from early childhood. A brother of the patient had epilepsy and was mentally defective.

Asymmetry of the face, so much emphasised by many writers, was rarely observed in the present series.

(4) *Variations in the shape of the cranium.*—Crania which conform more or less to the classical types, brachycephalic or dolichocephalic, are fairly common, though as a rule the skull of the defective is much more irregular and asymmetrical than in any normal type. Apart from the extreme types, such as hydrocephalic or microcephalic, the commonest deviations from normal are due to sub-development of the frontal region—receding and narrow foreheads are the rule—whilst a sharply rising occiput with practically no backward projection is very common apart from the typical bullet head of the Mongol. A flattened vault with projecting bossy forehead is also seen, though probably due to rickets in many cases. In a large proportion of aments the cranial capacity is markedly diminished, though the condition is frequently obscured by bony hypertrophy due to rickets or syphilis.

(5) *Variations in the length and shape of the phalanges.*—Abnormal shortness and stumpiness of the fingers as well as incurving of the little finger have been described among the stigmata found in aments, but the subject has hardly received the attention it merits. It may be remarked that in the normal individual there is a fairly constant relationship in the length of the digits, the second finger being the longest, the ring finger being slightly shorter, the index coming next, and the little finger being the shortest, the thumb of course being shorter than any of the fingers. Normally the tip of the little finger extends to the last interphalangeal joint of the ring finger. In a considerable proportion of aments the little finger and thumb are relatively much shorter than in the normal hand. Frequently the tip of the little finger does not reach beyond the centre of the second phalanx of the ring finger. An abnormally short little finger and thumb frequently occur in association, and in practically all cases the abnormality is bilateral and symmetrical. Not infrequently, too, one finds an abnormality in the relative lengths of the other fingers. In a case in point there was abnormal shortness of the little fingers and thumbs (bilateral and symmetrical). The middle finger as usual was the longest, the index came next, and the ring finger third in length. In fact the ring and

index fingers were transposed as regards their relative lengths. In this case it was noteworthy that the mother's hand showed an identical abnormality of the little finger and thumb, but the relative lengths of the other three fingers were normal. The abnormality was identical on both sides in both mother and child. As has before been mentioned, the abnormal shortening of the little finger is frequently associated with pronounced incurving. Similar variations are found in the length of the toes, though the relative lengths of the digits are not so fixed or constant in the normal individual as in the case of the hand. Instead of a gradually tapering off in length from the great toe to the little toe, one sometimes finds two or three toes of approximately the same length, or the normal disparity in the size of the great toe and the rest much less evident than usual. Another not uncommon abnormality is for one toe to be out of alignment with the rest, giving the appearance of two toes of the same length. A partial syndactylism is not uncommon, a partial polydactylism is more rarely seen, and in these and in all the other abnormalities described the condition as a rule is symmetrical. Partial syndactylism, or a setting of one toe out of alignment with the others, is not uncommon in normal individuals, and in all cases observed the condition was symmetrical. Moreover it usually occurs as an isolated phenomenon and not in association with other stigmata as in aments.

Hyperextensibility of the joints of the hands and fingers is so common as only to require mention. Apart from modification in the relative lengths of the fingers a variation in the absolute length of the digits is very common. A short squat hand with thick stubby fingers, poorly developed nails, atrophy of the muscles, and flatness of the thenar and hypothenar eminences resulting in a simian hand have all been described and are of common occurrence. In short, one rarely sees a hand normal in shape and contour in the lower-grade mental defective. In the higher types, as one would expect, the departure from normal is not nearly so evident.

(6) *Variations in the teeth.*—These have been described in such detail as only to require brief mention. Overcrowding is the rule where there is a narrow V-shaped palate. Malposition and eruption at different planes of the alveolus, abnormally small teeth, rotation of the vertical axis so that the tooth faces forwards and backwards instead of outwards and inwards and serration of the edges are the chief abnormalities.

(7) *Variations in the eyes.*—Close setting of the eyes is fairly common. Refractive errors are much more common than in normal individuals, though the present series were not examined from the point of view of the particular defect of vision. Strabismus occurred in a large percentage of cases. No case of ptosis was recorded. Iridoplegia was not seen; in most of the cases the pupils reacted normally to light and accommodation. Eccentric and irregular pupils occurred but rarely and the same may be said of speckled irides, though Shaw Bolton I believe regards them as a frequent occurrence in the ament. Rotary or lateral nystagmus was noted in a number of cases.

(8) *Variations in the deep and superficial reflexes.*—It is to be remembered that the cases with a definite history of organic disease of the cerebrum or meninges with resultant secondary amentia are not included in the present consideration. This rules out immediately the class of case where one would expect to find anomalies in the reflexes. Even so the writer has been struck by the variations in response in both deep and superficial reflexes.

The reflexes chiefly examined were the patellar, the plantar, the epigastric, hypogastric, the cremasteric, and the pupillary reflex. It is not here proposed to give a detailed statistical analysis of the results obtained; this it is hoped will form the subject of a future paper.

In the first place it may be said that most of the anomalies relate to the condition of the superficial reflexes, which, in view of the frequent disorders of ordinary sensation met with in aments, is not remarkable.

As the integrity of the superficial reflex arc is dependent upon the function of sensation, it affords indirectly a gauge to the impairment or modification of the sensory function, especially as the mental condition often precludes one from measuring the latter by direct methods.

The variations in the superficial reflexes include:

(a) In a fairly large proportion of cases the superficial reflexes are all absent, or only present to a minimal degree. Generally a diminution in the abdominal and

cremasteric reflexes is associated with a diminution of the plantar reflex, but there is no constant relationship between the two. When one considers the activity of the superficial reflexes in the normal child, the diminished or total lack of response of the ament assumes a striking significance. This is perhaps the commonest deviation from the normal.

(b) In a smaller proportion of cases the superficial reflexes are exaggerated, though, as in the preceding case, they are not uniformly affected.

(c) The tendency of the reflex to "overflow" as it were is frequently exemplified in the case of the cremasteric reflex. In extreme instances of exaggeration, when the inner side of the thigh is stroked, not only is there a retraction of the testicle of the same side, but it is accompanied by a sharp contraction of the abdominal muscles as far as the umbilicus or beyond it, and sometimes involving both sides. This, by the way, is not peculiar to aments, but is frequently found in normal individuals. In such cases there is sometimes an extreme degree of ticklishness, so that a slight stroking of the skin of the abdomen evokes a fit of laughter as well as the characteristic muscular response.

This suggests that alterations in the superficial reflexes are chiefly due to changes in the afferent path, and immediately to abnormalities of sensation. Finally, it may be remarked that gross anomalies in the superficial reflexes are frequently associated with a normal condition of the deep reflexes.

It is to be regretted that the scapular reflex was not systematically examined as it generally disappears in the normal child at or about puberty, and a comparative study of the condition of the reflex in the ament might be expected to yield interesting results. One's general impression is that the reflex is not nearly so active in the ament as in the normal child. Frequently it is altogether absent. The scapular reflex (16), it will be remembered, is obtained by stroking the skin in the interscapular region, when a contraction of the scapular muscles ensues. If the chest-piece of a stethoscope be placed to the back of a child during ordinary examination of the chest there will be a sudden sharp bending of the spine towards the affected side. In the writer's experience the sensory receptive area is not limited to the interscapular region but extends as low as the last dorsal vertebra. This reflex it is, however named, which is mostly frequently diminished or lost in aments.

(9) *Modifications in the motor nervous system* are so common in aments and have been described in such detail as to require little more than mention. Some imperfection in the motor apparatus may almost be said to be the rule in the lower grade ament. Ranging from a total or partial paralysis of one or more limbs in the severe types to a mere inco-ordination or handlessness (to use a graphic Scotticism) in the less pronounced, one meets innumerable and varying degrees of imperfection and want of adaptation to the normal needs of the individual. Apart from gross paralysis, the lack of fine adjustment, shown in the inability to dress or fasten buttons or execute any delicate movements, is strikingly common. The clumsiness of gait, the frequent occurrence of deformities of either extremities, the laxity and hyperextensibility of the distal joints, the frequency of coarse or fine tremors, chronic chorea, motor tics, and habit spasms, all testify to the presence of some abnormality or imperfection of the motor system. The effect of emotion or attention in developing or reinforcing a muscular tremor is very evident. Chorea, motor tics and athetoid movements are often found as a sequela of hemiplegia or paraplegia, though quite frequently there is no evidence of such antecedent event. A fine tremor affecting the whole or greater part of the body elicited on movement and absent in repose is frequently noted.

(10) *Gross deformities of the trunk, spinal axis or limbs* occur in the overwhelming majority of the lower-grade aments, generally as the result of paralysis in early or intra-uterine life. In view of the frequency of some degree of paralysis, or paresis of the limbs, this is to be expected. They include genu valgum and genu varum, pes cavus, pes equinus or equino-varus, and pes valgus. Pes planus, the commonest foot deformity of the normal individual, is comparatively rare in aments. Secondary scoliosis of the spine is frequently associated with these deformities, and kyphosis and lordosis are fairly common. Cubitus valgus or varus is occasionally seen and when present is bilateral. Rickety curvature of the limbs and chest deformities are, I think, not more common than in normal individuals, and the same applies to the cranial abnormalities due to rickets.

(11) *Variations in the external genitalia*.—Under or over-development of the

external genitals are found in a fair proportion of aments. In the males non-descent of the testicle on one or both sides is perhaps the commonest anomaly. In a certain number of cases, on the other hand, the external genitals and especially the penis are ridiculously large in relation to the size of the body. In some male cases the bodily contour conforms more to the female than to the male type, the stature being short and stumpy, the genitals undeveloped or rudimentary, and there being an excessive deposit of subcutaneous fat throughout the body. Another feature of these cases is the diminution of the normal curves of the spinal column so that the back is short and straight. The condition in fact resembles that found in the so-called dystrophia adiposo-genitalis, although no case was seen which presented the extreme signs of infantilism exhibited by typical examples of this disorder. None the less, it is not improbable that these cases are merely minor examples of what Schafer describes as hypopituitarism (17), and are due to disease or atrophy of the pituitary glands. As the diminution in stature is related to atrophy of the anterior lobe of the pituitary gland, and excessive fat formation and deficient sexual development to deficiency of the posterior lobe, it is to be supposed that in this case the whole gland is concerned. This is merely a suggestion thrown out, of course, and would, if correct, account only for the bodily conformation as described.

Similarly, some female aments are characterised by an unusual bony and muscular development, a bodily conformation resembling the male type with a notable absence of subcutaneous fat, with the roundness of contour characteristic of the female. The absence of mammae, presence of hair on the limbs or trunk, and occasional absence of hair from the pubic area combine to heighten the resemblance to the male. Such individuals are generally tall, and have a pelvis of the male type, and unusual length of limb.

In one such case, that of a female, æt. 33, the facies resembled that seen in acromegaly. The nose and upper jaw were relatively large; the thorax was of the male type with absence of mammae. There was scantiness of the pubic hair, the limbs were long and muscular, and there was a marked kyphosis in the dorsal region and a notable diminution of the subcutaneous fat. She was stated never to have menstruated. Her mental state was that of a feeble-minded person. This case may be contrasted with the condition of infantilism discussed above, and the condition may be attributable to hypertrophy of the anterior lobe of the pituitary gland so far as the somatic variations are concerned.

Hypospadias and epispadias are occasionally though comparatively rarely seen, and no case of hermaphroditism was met with in the series.

The above represent the main types of variations in the anatomical structure found in the series of aments under review, and their significance lies in the fact that though any of them may occur singly in the normal individual they occur far more frequently in aments, and in the vast majority of cases are multiple in character.

A COMPARISON OF THE NUMERICAL INCIDENCE OF STIGMATA AND NEUROPATHIC INHERITANCE RESPECTIVELY.

As already stated, it has been found that the incidence of stigmata shows a steady and notable rise as one descends in the scale from the higher-grade to the lower-grade ament, whereas a neuropathic inheritance is, if anything, slightly more common in the higher grades of amentia than in the lower. This perhaps hardly accords with one's expectations, and certainly not with the views currently held. Most writers, indeed, on this and kindred subjects regard stigmata as indicative alike of the degree of neuronic degeneration and a measure of neuropathic inheritance, the implication being that one increases *pari passu* with the other.

Whether true or not, this view is certainly not confirmed by the findings of our present analysis, although it is recognised of course that the analysis of a larger number of cases might yield very different results.

Aldren Turner, for example (18), speaking of stigmata, says—"They are of immense value as an index of the intensity or degree of the hereditary predisposition." Moreover, he finds (19) "that of 200 cases of epilepsy 42 *per cent.* presented well-marked evidences of structural stigmata, although no hereditary neuropathic history could be obtained; while of those in whom such a history was known, only 24 *per cent.* showed stigmata." He goes on to say (20): "It is therefore obvious that the absence of a family neuropathic history is of little account in face of the well-marked structural signs of an inherited degenerative disposition which many of the cases presented. Moreover it is clear that if the family history could have been probed more deeply, a large percentage of those with stigmata of degeneration would have made mention of some inherited degenerative psychosis." Upon which one may comment that the postulated relationship between stigmata and hereditary predisposition is by no means established—at least so far as this writer is concerned.

SPECIAL CLINICAL TYPES.

(*Mongolian and Cretin Imbeciles.*)

Two groups of mental defectives, *vis.*, the Mongolian and the cretin types, stand out pre-eminently from the general body by virtue of their strongly marked physical characteristics and the pronounced resemblance to one another of the individual members of the class in question. Although the ætiology of the cretin may be regarded as settled, whilst that of the Mongolian imbecile is still *sub judice*, the general resemblance between the two groups is such as to suggest a similarity in origin, *vis.*, a disturbance of function of the endocrine glands.

Out of the 200 cases examined only 8 were Mongolian imbeciles, whilst 2 were cretins, all 10 cases being typical examples of their class.

Mongolian Imbeciles (8 in number).

The whole eight were males.

CASE 1.—C. P.—. The child was fifth in a family of five, there being ten years' interval between birth of patient and the last preceding child. No neuropathic history. Age of mother at birth of patient 40.

CASE 2.—G. F.—. Patient was the only child and was born two years after marriage. Father was "nervous" and unstable, and maternal uncle was insane. Mother's age at birth of patient 32.

CASE 3.—I. B.—. Patient was last born in a family of nine. No neurosis in family. Mother's age at birth of patient 40.

CASE 4.—E. A. G.—. Patient was last born in a family of five. Maternal aunt became insane at climacteric. Age of mother at birth of child 40.

CASE 5.—J. W.—. Patient was third child in family of four. Maternal grandfather drowned himself (melancholia). Age of mother at birth of patient 37. Patient was an epileptic and had hypospadias.

CASE 6.—N. A. W.—. Patient was third in family of three. No neurosis in family. Age of mother at birth of patient 32.

CASE 7.—F. B.—. Mental status that of idiot. Patient is eighth child in family of eight. Father drank heavily for twenty-six years. Age of mother at birth of child 46.

CASE 8.—J. G.—. Patient is second child in family of four. Father and paternal grandfather addicted to drink. Age of mother at birth of patient 30.

To summarise, all eight cases were males. In five cases the child was the last born in the family. The youngest mother was aged 30 and the oldest 46, the average age of the mother at birth of child being $37\frac{1}{2}$ years.

In three cases there was a history of insanity in either the direct or collateral lines, in two a history of alcoholism, whilst in three there was no evidence of neurosis.

Although the number of cases was small the evidence would suggest that the comparatively advanced age of the mother is a probable factor, with its possible corollary—an exhaustion of the reproductive function; and secondly that neuropathic inheritance probably plays an equally important rôle. The disharmony or disturbance of function of the endocrine glands which is now regarded as the essential and proximate cause of Mongolism may be related to the age of the mother, but the mode of operation of the neuropathic factor is less direct.

Cretin Imbeciles (2 in number).

Both cases were typical examples of cretinism.

CASE 1.—H. T—, male. The mother was "nervous" and the maternal uncle was an inmate of the imbecile ward of a workhouse hospital. Patient was the sixth child in a family of twelve.

CASE 2.—A. M. I—, female. Patient was eldest child of six. No history of neurosis, but maternal grandmother died at 52 "at the change of life." Age of parents at birth of patient was 25. The patient herself, although 16 years of age, was only a little over 4 ft. in height.

The number of cases was too small to prove anything as to ætiology beyond the obvious fact of thyroid deficiency.

TUBERCULOUS INHERITANCE.

Of the 200 aments examined, 48 (that is, 24 *per cent.*) gave a history of tuberculosis either in the direct or collateral lines. Tredgold (21) found a tuberculous history in the families of 34 *per cent.* of cases investigated, and quotes Beach and Shuttleworth as finding close upon 30 *per cent.*, Langdon Down 22·5 *per cent.*, Kerlin 56 *per cent.* and Potts 43·2 *per cent.* of defectives as compared with 17 *per cent.* of normal children. My figures include tuberculosis of all types, pulmonary, glandular, intestinal, and tuberculosis of bones, and as in the case of neuropathic ancestry probably represent a considerable under-estimate of the actual facts. One is repeatedly struck by the co-existence of tuberculous affections in several members of the family with insanity, epilepsy, or mental defect in others. The two strains, the neuropathic and the tuberculous, are rarely combined in the same individual, but in extreme cases the distribution is such as to suggest an alternation or substitution of the two diatheses in different members of a family.

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- (3) H. Frieze Stephens.—"The Compluetic Reaction in Amentia," *Journ. Ment. Sci.*, October, 1916.

- (4) Sherlock.—*The Feeble-minded*, p. 261.
- (5) A. F. Tredgold.—*Mental Deficiency*, p. 277.
- (6) *Op. cit.*, p. 221.
- (7) J. Shaw Bolton.—*The Brain in Health and Disease*, p. 198.
- (8) *Op. cit.*, p. 162.
- (9) Tredgold.—*Mental Deficiency*, p. 226.
- (10) "Lethargic Encephalitis."—Paper read before Med. Soc. of London by Col. E. Farquhar Buzzard, *Brit. Med. Journ.*, December 24th, 1918.
- (11) W. A. Potts.—Quoted by Tredgold, *Mental Deficiency*, p. 47.
- (12) Tredgold.—*Mental Deficiency*, p. 40.
- (13) *Loc. cit.*
- (14) *Loc. cit.*
- (15) Goddard.—*Feeble-mindedness, its Causes and Consequences*, p. 437.
- (16) Hutchison and Rainy.—*Clinical Methods (Superficial Reflexes)*. p. 477.
- (17) E. A. Schäfer.—*The Endocrine Organs*, p. 110.
- (18) Aldren Turner.—*Epilepsy*, p. 31.
- (19) *Op. cit.*, p. 38.
- (20) *Op. cit.*, p. 38.
- (21) Tredgold.—*Mental Deficiency*, p. 47.

(2) The so-called delayed primary amentia, in which there is a latent period of normal mentality, is after all only a sub-division of primary amentia, in which the potentiality for normal development is rather greater than in the typical cases of this group.—(3) "The co-existence of epilepsy and mental disease is thus of such a character as to indicate that both conditions are symptomatic of cerebral degeneracy" (*The Brain in Health and Disease*, by J. Shaw Bolton, p. 199).

Anxiety States Occurring at the Involutional Period.⁽¹⁾ By D. K. HENDERSON, M.D. Edin., F.R.F.P. & S. Glas., Senior Assistant Physician, Royal Asylum, Gartnavel, Glasgow.

A WIDOWER, æt. 69, was admitted recently to the Glasgow Royal Mental Hospital in an anxious, apprehensive, excited, restless state. The history of the case showed that he had come of a good stock, and that he had been a strong, healthy man. For a period of forty-six years he had been employed by the same firm of lawyers, and latterly had been their cashier. He had married twice; there were four children from the first marriage and two from the second. He had divorced his second wife on account of her unfaithfulness. In January, 1919, he resigned his position, sold his home, and made plans to live with his daughter. Three days after his home and furniture had been sold he made a determined attempt on his life by cutting his throat. One month later he was admitted to the Glasgow Royal Mental Hospital. Following his admission he continued in a state of abject misery, he

⁽¹⁾ Paper read at the meeting of the Scottish Division, March 19th, 1920.

moaned and groaned, wrung his hands, resented any interference, and was very restless. He realised that he was in a hospital, but his mind was so occupied by his depressive thoughts and he was so miserable that he would not assist in a satisfactory mental examination. Physically he was in poor general health, his pulse was irregular and intermittent, and he had peripheral arterio-sclerosis. During the next few months he gradually improved in strength and general condition but mentally panics of anxious apprehension supervened from time to time, in which he became self-accusatory, and expressed hopeless feeling as regard his prospect of recovery. At the same time he was perfectly oriented, and his memory, general knowledge, and personality were all well retained. No particular attempt was ever made at psycho-analysis (his age seemed to preclude such a procedure), but nevertheless casual conversations were sufficient to allow him to give expression to his fears, and incidentally to show where his conflicts and difficulties lay. He complained of the other patients, said that they looked as if they could tear his bones out, that they wished to do him an injury, that they slandered him, that they accused him of incest with his daughter. At this point he began to defend himself with great warmth and emphasis, and said, quite unnecessarily, that the only thing that supported him was the consciousness of his own rectitude, that nothing had been further from his thoughts, etc. These matters were never argued out with him, but he was encouraged always to say what he had to say, and eventually six months after admission he was discharged as recovered.

How is such a case to be interpreted? Is it sufficient and satisfactory to think of it as a case of anxiety and depression in a senile suffering from arterio-sclerosis who recovered mentally as his general condition improved? I do not think this view is helpful in any way. This man of sixty-nine years had determined to break with his lifelong associations, and when the time came could not adjust himself to the new situation; a depression, not unnaturally, took possession of him and he attempted his life.

The question then arises as to whether this case was manic-depressive in type, being one of the so-called "mixed" states? There is still another view which can be taken. The patient, in addition to his depression, gave expression to certain complex material which might bear a close relationship to his anxiety and apprehension and his righteous self-justification, suggesting involutional melancholia, or better, the anxiety-reaction type.

I have examined the hospital records for a period of five years from January 1st, 1915, to December 31st, 1919, and find that as regards the age-period 40 to 70 years 299 patients—160 women and 139 men—were admitted.

The types of mental disorder were :

| | Women. | Men. | | Women. | Men. |
|--------------------|--------|------|---------------------|--------|------|
| Anxiety states . | 65 | 32 | Dementia præcox . | 3 | 4 |
| Mania . | 12 | 6 | Mental deficiency . | 2 | 2 |
| Manic-depressive . | 27 | 11 | Delirium . | 1 | 1 |
| Paranoid states . | 26 | 10 | Epilepsy . | — | 4 |
| Organic brain | | | Psychasthenia . | 1 | — |
| disease | 23 | 69 | | | |

It will be seen that 65 women, or roughly 40 *per cent.*, and 32 men, or roughly 23 *per cent.*, had a psychosis in which anxiety in one form or another was the predominating symptom. The majority of these were first-attack cases. On the other hand, the manic-depressive cases, the great majority had had either one or several attacks at a much earlier age. I might have included in the manic-depressive group the 12 female and 6 male cases of mania, but I have considered it better to keep them separate so as to make the contrast between the depressive and maniacal attacks occurring at this period of life more striking. The fact that 69 men and 23 women showed symptoms of organic brain disease is only what one would expect. None of the other groups call for any special comment.

Of the anxiety cases, 59 *per cent.* women and 56 *per cent.* men either recovered or definitely improved as follows :

| | Women. | Men. |
|---------------------------|--------|------|
| Recovered | 26 | 13 |
| Relieved | 12 | 5 |
| Not improved | 6 | 3 |
| Under treatment | 19 | 4 |
| Died | 2 | 7 |
| | — | — |
| | 65 | 32 |

These statistics go to prove that anxiety states occurring at the involutional period are a relatively frequent type of mental disorder, and furthermore, that anxiety is a benign type of reaction. That being so, it would be profitable to inquire more closely into the mechanism of the disorder as helpful to treatment.

It is generally accepted that the involutional period, as the name implies, is a physiological epoch when the body-chemistry commences to undergo certain changes. It is the period of life when the sexual glands begin to lose their functions, the bodily processes to decline, and the organism to fail. The person loses his vigour and elasticity ; he can no longer adapt himself to new events and situations of life which entail stress and strain and give rise to careful thought, and, maybe, anxiety. Just as the future looms large, so also does the past assume a proportion which it never previously possessed, and "what might have been" gives cause for reflection. We thus conceive the

involutional period as a time of life when new adaptations have to be made, and to those unfortunately possessed with unstable nervous systems we can readily understand how fraught with danger such a time is. Trifles, petty worries, and difficulties of all kinds which formerly hardly gave a moment's thought now seem overwhelming, the prickings of conscience are in the foreground, the sins and misdemeanours of the past assume tremendous proportions, feelings and thoughts which have been carefully repressed and apparently forgotten come uppermost, and often find expression in crude sexual beliefs and ideas. Such a conflict of instincts soon brings about a more definite psychic state, with anxiety, fear and apprehension as the striking symptoms. Insomnia becomes distressing, delusions are freely expressed, and attempts at suicide are not uncommon. With all this the personality of the individual remains practically intact, the memory is good, and the sensorium is relatively clear. Kirby, in his discussion of anxiety states, goes a step further, and attempts to differentiate the following groups: (1) Cases showing a simple form of anxiety or general uneasiness, apprehensive anticipations, with or without ideas of sin; (2) a severer form showing anxiety with fear, perplexity, and allo-psychic concepts. (3) cases presenting the sensory somatic complex, abnormal bodily sensations, hypochondriacal trends, and feelings of unreality; (4) cases developing with arterio-sclerosis.

I will now consider the case I have reported in the light of these facts.

It has, I think, been definitely proved that peripheral arterio-sclerosis can exist apart from cerebral arterio-sclerosis, so that in a given case where peripheral arterio-sclerosis is present we should hesitate before coming to the conclusion that the mental condition is arterio-sclerotic in nature. Arterio-sclerotic brain disease is an entity accompanied by such definite physical and such marked mental symptoms that we should never confound it with such conditions as anxiety-states. Transitions must and undoubtedly do occur, but the diagnosis of arterio-sclerotic brain disease should be limited to those cases with a history of headache, vertigo, convulsive attacks, and a defective memory. It is because of the absence of these pathognomonic symptoms that I have kept the case described apart from the arterio-sclerotic group.

The second and more difficult point is the relationship of such a case to the manic-depressive reaction type. When Kraepelin differentiated between manic-depressive states, dementia præcox and the other functional groups he kept apart cases of melancholia occurring at the involutional period, and reserved for them the term "melancholia." A few years later one of his pupils, Dreyfus, reviewed some eighty of Kraepelin's cases, and sought to prove that these were really manic-depressive cases. Kraepelin accepted and concurred with the findings

of Dreyfus. Dreyfus made a special point of proving that cases of pure depression and excitement were not so common as had been thought, and that the involutional cases corresponded to Kraepelin's mixed group of manic-depressive. He stated also that these involutional cases had the same good prognosis as the manic-depressive cases, and that the prognosis only became unfavourable when arterio-sclerotic brain disease occurred. The recovery-rate in his group of cases was 66 *per cent.*, and in one-third of the cases the duration was over three years. Kirby, to whose review I am greatly indebted, concluded by saying: "In a number of cases the manic-depressive symptoms were plainly in evidence, the cases having been improperly placed with the melancholias. In a considerable number of other cases the author's conclusion that manic-depressive symptoms were present is based on extremely meagre data." I am heartily in agreement with Kirby's criticism, which is supported by certain definite findings.

From the point of view of ætiology it is striking to find how frequently in anxiety states mental factors, *e.g.*, the death of a near relative, financial and business worries, unfortunate home conditions, the breaking up of the home, etc., are assigned as the precipitating or exciting cause. On analysing my cases the causes were as follows:

| | Women. | Men. |
|--------------------|--------|------|
| Mental | 37 | 23 |
| Physical | 2 | 4 |
| Combined | 14 | 5 |
| | — | — |
| | 65 | 32 |

Thus in 57 *per cent.* women and 71 *per cent.* men the ætiological factors were mental, whereas physical factors were only of importance in 21 *per cent.* women and 6 *per cent.* men. William Mabon, in his *A Study on the Ætiology of Insanity*, found that in manic-depressive insanity the percentage of mental and physical causes was about equal, whereas in the involutional cases 47 *per cent.* were of psychic origin, 34 *per cent.* of physical origin, and 17 *per cent.* were due to these combined. These statistics have been confirmed by others. The manic-depressive reaction, on the other hand, is much more of the nature of a constitutional disorder.

Another point which might be brought into consideration is the fact that in rural districts the percentage of involutional cases is much greater than in metropolitan areas. Meyer has ventured the suggestion that this is possibly due to a narrower mental horizon. Whether or not his view is correct is not unworthy of study.

These two types—anxiety states and manic-depressive—may also be distinguished symptomatically. In anxiety states fear and apprehension dominate the picture, and the feelings of fretfulness and uneasiness

and the expression of somato-psychic delusions are all very characteristic. The typical depression of manic-depressive insanity is much more of the sad slow retarded variety with a subjective feeling of difficulty in thinking. I do not mean to imply that this differentiation is absolutely clean cut, but in the main it seems to hold good.

The course of the disease is also different in the condition under discussion. Anxiety states as a rule run a much more acute course, the danger of death is greater, but again taken as a whole the prognosis is better than in the slow, depressive states occurring in manic-depressive insanity after the age of forty years. In both conditions there is a tendency to recurrence, but when an anxiety state does recur it is always in the form of another anxiety attack. Anxiety states run true to type, whereas in manic-depressive states the subsequent attack may either show excitement or a depression. The fact also that anxiety states do not as a general rule develop until the involutional period seems to point to these patients having less instability than the manic-depressive types. For the reasons enumerated I feel we are justified in not subscribing to the Dreyfus-Kraepelin doctrine. On the other hand, we are more or less forced to recognise the prevalence of a group of cases which may be called the anxiety reaction type. It is for these reasons that the case reported cannot be grouped with the manic-depressive psychosis.

What then is its relation to the anxiety neurosis as described by Freud. It has been urged that there is a very intimate association between the sex instinct and the emotions of fear, and Freud, in his investigation and description of the anxiety neurosis, states that the causes of this disorder depend on the fact that the sexual life of the individual had not been satisfied. Morbid anxiety was to be held as synonymous with unsatisfied love. In addition, Freud states specifically that in certain cases no ætiology can readily be determined, and in such cases he believes that it is usually possible to demonstrate a marked hereditary taint. The clinical picture of this state is described as one of general irritability with auditory hyperæsthesia, anxious expectation, and often palpitation with cardiac irregularity, disturbance of respiration, profuse perspiration, diarrhœa, trembling, vertigo, etc. As a result of his clinical experience and of the analysis of his cases Freud formulated the theory that these "anxiety" symptoms were due to somatic excitations which could not find a suitable outlet, and Jones has summed up this view by saying that in the anxiety neurosis the mechanism of the disorder consists in there being "an excessive afferent excitation with deficient efferent outflow." In the anxiety psychosis occurring at the involutional period the clinical picture is essentially the same as in the anxiety neurosis, but the conduct of the individual is less under control; the mechanism of the disorder seems to be

essentially the same. The old gentleman of sixty-nine years whose case I have reported no doubt had been troubled with morbid, incestuous thoughts and had doubted his capacity to deal with them. This was proved by the fact that during his psychosis he frequently referred to the topic with great affect, and rarely, if ever, did he mention the breaking up of his home and the resignation of his position. His psychosis, in other words, acted as a safety-valve, because it allowed him to give expression to those doubts and fears which in normal life he had so carefully repressed.

Another case in point is the following: A married woman, æt. 53, who is in a state of anxious apprehension, is tearful, feels that she will never get better, that the hospital is not the proper place for her, that she should be given another chance, and that if she were she would exert more will-power and keep a better grip on herself. This lady's husband is a marine engineer who is constantly away on long voyages, and is only at home for a few days between trips. She has one child, a boy, who is now nineteen years old. Until this boy was sixteen years old, the patient devoted herself to him, learned the school subjects with him, and identified herself with him in every way. At this stage difficulties arose. The boy began to emancipate himself, and to form friendships and interests outside the home. This was the time that the patient's psychosis developed, and during the next three years she was in and out of several mental hospitals. The patient is refined, sensitive, and lady-like; on the other hand, her husband is a commonplace man. There seems to me to be no doubt that this woman's love-life has been unsatisfied, and that she attempted to compensate for this by devoting herself entirely to her boy. She has herself expressed the situation by saying, "It would have been so different, doctor, if I had only had a daughter." It is evident that when her method of sublimation was taken from her and she was thrown on her own resources she failed utterly to face the situation, and her repressions and difficulties gave place to anxiety and apprehension.

The psychosis in the first case went so far that all barriers were broken, and the patient got relief from his tension by the expression of his inmost thoughts, but in the second case the only thing one can hope for is that a satisfactory compromise may be effected.

The analysis of these two cases seems to prove that the climacteric, *per se*, and the precipitating mental and physical factors act by lowering the resistance of the individual, and give a chance for the submerged, repressed and "forgotten" trends to come to the surface; they have no specific action whatever. The great difficulty with involutional cases is that they have reached a time of life when they have lost their elasticity; it is no longer easy for them to unburden themselves of their conflicts and troubles, and for the most part they are totally unconscious of

the connection between their repressed instincts and their anxiety symptoms.

We should learn from these cases of anxiety not to think of them too closely in terms of mental and physical factors, and of symptomatology and classification, but rather regard them from a broader, biological standpoint. We must try and fathom their real difficulties, how they have attempted to meet them, and how we can assist. By dealing with these cases in this way we have something definite to work with, we gain a more vital and stimulating interest in them, and we shall come to recognise that symptoms of fear and anxiety are unhealthy methods of meeting instinctive difficulties. It is these anxious, uneasy, fretful types of patients who are always so ready to explain their troubles on the basis of their environment, and never seem to realise that it is they themselves who are at fault. They cannot own up to the actual situation and hang their anxiety on any peg that offers. For instance, one of our patients, at present in a state of great anxiety and fear, and addicted to masturbation, told me that I had murdered her, had destroyed her body, and that only her face and hands were left. The fact is that she herself is afraid that she may have injured or destroyed her body by her auto-erotic habits, but instead of meeting the situation honestly she makes the doctor the scapegoat and accuses him of murdering her, *i.e.*, of destroying her body. A school teacher, æt. 48, reiterates over and over again that she has killed her sister. The facts are that several months ago her sister died in a general hospital following an operation for ovarian cyst. The patient's sister had confided to the patient that her abdomen was beginning to swell, but both sisters had been too prudish to consult a doctor until the swelling had become very noticeable. The patient now blames herself for not having acted more promptly, but a superficial analysis shows that she has simply seized hold of her sister's death as the explanation of her anxiety because she is quite unable to meet her deeper instinctive difficulties. It is no easy or pleasant task to attempt to delve into the inner life of a maiden lady of fifty years or thereabouts, and as a general rule I would not advocate it, but I do think that we should make some attempt to give such patients a better understanding of themselves, and of what their illness means to them. It is quite possible in most cases of the anxiety-reaction type to give the patient a general explanation in regard to how such attacks often originate from factors which he or she has been unable to adequately meet, and that therefore it is important that the whole life-history of the individual should be discussed. Just as a tubercular focus may light up when the general health of the individual becomes lowered, so also may repressed ideas again assert themselves and act as sources of irritation. "Where there is pus let it out" is as much a truism in mental disorders as in general medicine. To that end it is important

to encourage our patients to talk openly and freely about their difficulties.

The physician cannot do more than put his point of view before the patient, and then the matter must be left to the patient's judgment as to whether it is to be accepted or rejected. If it is accepted, then whatever the patient offers spontaneously should be utilised vigorously, but such a method of treatment should not be forced arbitrarily. If it is rejected, then the best possible compromise should be attempted. It is worse than useless to tell such patients to exert their will-power, to get a grip on themselves, or to forget things. Emotional experiences which have played any important part can never be entirely forgotten, and will always possess a certain irritative force unless consciously and straightforwardly faced. In addition to the age of the individual the only other objection against this method of treatment is the time it consumes, but in regard to this I cannot do better than quote the words of Ernest Jones :

"When we consider how much trouble and time has to be spent in the orthopædic straightening of a deformed limb we should not grudge the same to the far more intricate task of the orthopsychic training of a deformed mind, especially when this results in converting an intolerable existence into a happy life, and a person paralysed by fears, doubts and sufferings into an active and useful citizen."

Occasional Note.

The Nosology of Dementia Præcox.

So many of our readers subscribe to the *British Medical Journal* and the *Lancet* that we do not as a rule epitomise original articles which appear in these publications, unless they are of outstanding importance or there is some other special reason for so doing. The same attitude is adopted, but to a less extent, as regards other English medical journals, most of which are easily obtained. Economy, always a necessity, is especially important at present. There are some subjects, however, including contemporaneous movements of moment affecting the psychiatric world, it is important that members of the Association should be kept well informed of, hence the "Epitome" and many of the items published in "Notes and News."

Sir Frederick Mott's recent contribution to endocrinology,⁽¹⁾ which foreshadows the possible entry of dementia præcox into the endocrinopathies, although perhaps well known to our readers, falls well within this category, and the Journal would be incomplete without some reference to it.

The most striking facts revealed are that whereas in general paralysis, excluding the effects of old inflammations, spermatogenesis is active, and in many cases very active, and the degenerative changes in the brain the outcome of spirochætal poison, in dementia præcox there is invariably regressive atrophy of the seminiferous tubules, and the changes in the brain are a primary nuclear degeneration.

There is an intimate relationship between the adrenal cortex and the reproductive functions, and Mott found in four male cases of well-marked dementia præcox that the adrenal cortex was narrowed and lipoid much less than in cases with other mental diseases. One of the functions of the adrenal cortex is to provide lipoid needed to build up myelin, but it also stores lipoid, which can be set free to form anti-toxins (Elliot), and it also provides a constant supply of raw material to the testes for formative nuclear activity. It follows that any breakdown in the lipoid-supply mechanism, especially in early life, would affect the nucleus of the neuron and create a deficiency in the organic phosphorus in the nerve-cell and a loss of vital resistance to infective diseases.

It is obvious that, as regards dementia præcox, further investigations in this direction may have a profound effect on the nosology of this disease, and Sir Frederick Mott's further communication, as regards the correlation of the morbid biological changes in the testes and those in the central nervous system, will be awaited with considerable interest.

(¹) "Normal and Morbid Conditions of the Testes from Birth to Old Age in 100 Asylum and Hospital Cases" (*Brit. Med. Journ.*, November 22nd, 29th, and December 6th, 1919), by Sir F. W. Mott, K.B.E., F.R.S., etc.

Part II.—Reviews.

The Fourth and Fifth Annual Reports of the Board of Control, 1917–1918.

The exigencies of the great war rendered it impossible for us to review the annual reports of the Board of Control for the years 1917 and 1918 at the usual time. The war interfered profoundly with all established practices, and it lies to the credit of the late Dr. Drapes, who with great devotion conducted the Journal almost single-handed during the military service of the senior Editor, that the organ of the Association was not even more attenuated—*conquiescat in pace*.

For many years past, those sections of the Board's report dealing with the incidence of insanity, and the recovery and death-rates, have been the matters of outstanding interest, and for this reason the main subjects dealt with in our annual review. It has never been an easy task to criticise the Commissioners' carefully worded conclusions, and thus the specious complaint made in our review of the report of 1916 regarding the cutting-down of the number of tables in

Part II from thirty-eight to fourteen is explainable, if not excusable. Our attitude could well be likened to that of the Israelite when asked to make bricks without straw. In view of the additional important and weighty matters dealt with in the reports for 1917 and 1918, we have no grounds to renew the complaint, and it can be noted, without regret on our part, that the Commissioners are unrepentant in this matter and continue in their course of economy.

Number of notified insane.—The rate of decrease which commenced with the onset of war continued during the years under review, being for 1915, 3,159; 1916, 3,278; 1917, 8,188; 1918, 9,138; total decrease, 23,763, instead of an increase of 32,767 to be expected under ordinary conditions. The total number of notified insane on January 1st, 1919, in England and Wales was 116,703.

Admissions.—The rate of decrease on the previous year of patients admitted to institutions and single care was 5·2 *per cent.* (8·6 *per cent.* men, 2·1 *per cent.* women), and 10·9 *per cent.* (12·1 *per cent.* men, 9·2 *per cent.* women) for 1917 and 1918 respectively, the actual numbers being: 1917, 19,632; 1918, 21,765. During 1918, there was an increase and not a decrease, as in 1917, in the percentage proportion of male and female admissions of 0·5 on the proportion of males obtaining in the previous year.

Discharges.—The recovery-rates for 1917 and 1918, calculated upon the total admissions, were respectively 31·33 *per cent.* (26·82 men, 35·13 women) and 27·14 (22·76 men, 30·91 women). That for 1918 is the lowest ever recorded.

Deaths.—The abnormal increase in the death-rate continues. Calculated on the daily average number resident it was for 1917 16·86 *per cent.*, and for 1918 19·56—respectively 6·11 and 7·89 above the percentage for the decennium.

It has been said it never rains but it pours, and these surprising figures call for careful examination and inquiry as to whether their face value reveals the true state of affairs. Do they really mean that during the war fewer people became insane, that the insanity which occurred was less recoverable and more fatal? The answer to the first question is almost certainly in the negative. It is obvious that if the number of those admitted to certificate is less, and if more die, those remaining in confinement and single care will decrease. Certifiable insanity and mental disease are not synonymous terms. Normal conduct or normal relationship to environment attains a higher standard as progress is made in the social life of the people, with the result that disordered mental states more readily enter the domains of certifiable insanity. A retrograde movement would have just the contrary effect, other conditions being equal. Can it be said that the universal social disintegration, the necessary concomitant of a world-wide contention, has kept up the standard of normal conduct? A mere perusal of the daily newspapers seems to be quite convincing that the contrary has occurred. Heroic efforts undoubtedly have been displayed, but have been accompanied by a degree of social dissolution. We venture to suggest that, apart from the beneficial effects of less unemployment and higher wages, also the restrictions on the consumption of alcohol, the decrease in the admissions does not indicate a decrease in insanity, but

has been due to fewer people having been certified, owing to the public becoming less sensitive to abnormalities and vagaries of conduct, and also to the partial suspension of the scavengery of the population by the lunacy authorities; and that lunacy, moral and sex degeneracy, perversion, etc., are merely dammed back and waiting to be garnered. We suggest a rich harvest sooner or later, and it is to be hoped that, in the meantime, the administrative machinery and the methods of classification, care and treatment will have been reconstructed on the enlightened lines so urgently desired, and that the accumulation will not be packed *a capite ad calcem* in mental hospitals as in the past. The half-baked lunatic and higher-grade imbecile when at large are always a source of grave danger, especially during times when even steady politicians and social workers tend to become infected with anti-social and revolutionary crazes, and the sooner this cleaning up is effected the better in the interests of public tranquillity.

The lessened recovery-rate is due to the cases being admitted at a more advanced stage of their disease, and also no doubt to the same causes which increased the death-rate, such as the diet restrictions and the impairment of nursing facilities. There may also have been a reluctance to discharge patients to conditions unfavourable to complete convalescence.

The Commissioners deal at considerable length in both reports with the increased mortality which has occurred since 1915 among those confined in county and borough asylums. In view of the disquieting state of things revealed by the mortality returns, they very wisely appointed three of their number to make special inquiry into the circumstances which had determined the appallingly increased death-rate. These Commissioners made special visits to twenty-six institutions, and their conclusions and recommendations were embodied in a circular letter dated January 15th, 1919, headed, "Increased Annual Death-rate in Asylums," which was forwarded to all medical superintendents and clerks to visiting committees. Most of our readers will be familiar with the terms of this communication. It is too long to quote *in extenso*. We reproduce here the table showing the comparison between 1913 and the years 1915-17 (adding the figures for 1918) regarding the mortality per 1,000 in respect of each principal cause of death.

| | 1913. | 1915. | 1916. | 1917. | 1918. |
|-----------------|-------|-------|-------|-------|-------|
| Tuberculosis . | 17 | 19 | 23 | 37 | 52 |
| Senility . | 14.3 | 16 | 17 | 24 | 27 |
| Pneumonia . | 3.5 | 14 | 13 | 17 | 17 |
| Dysentery . | 2.2 | 4 | 5 | 10 | 9 |
| Enteric fever . | 3 | 6 | 5 | 1.2 | 1 |

An important point brought out is that for each of the assigned causes the male death-rate surpasses the female, and that the excess of the total male death-rate is considerable, even if the deaths from general paralysis in both sexes are excluded.

The Commissioners attribute this alarming state of affairs in part but not wholly to the effect of war conditions, such as the reduced supply and deterioration in quality of food, the impairment of nursing

efficiency, the movement of patients from one asylum to another, the lower physical condition and greater age of the admissions, and to some degree of overcrowding.

Other causes, which are likely to remain after the war, were imperfect segregation of sick and infectious patients, lack of personal cleanliness, and wrong methods of dealing with foul linen.

The recommendations made to meet these conditions appear to us to be in the main eminently sound and practical, and no doubt will receive the earnest attention of medical superintendents and asylum committees throughout the country. Some of the recommendations are already in practice in many institutions. Regarding more open-air life, a relatively small increase in staff would permit of many more open doors and windows, without having to adopt the retrograde mechanical means as suggested. A sanatorium for tubercular mental cases is very necessary in every larger mental hospital, though it might be an advantage if mental hospitals within a reasonable area could make joint use of a separate and specially designed institution for this purpose. To be really serviceable the sanatorium or ward set apart for tuberculosis should be considered, like infectious accommodation and padded rooms, as additional to the ordinary accommodation available for new admissions. The ideal plan the Board recommends regarding the attachment to each institution of a special hospital under general hospital-trained nurses, for the treatment of tuberculosis, dysentery, infectious diseases, and illness generally demands careful consideration. The present mental hospital infirmary seems to be very adequate for dealing with ordinary medical and surgical cases. No doubt it would be an advantage to employ hospital-trained nurses for supervision in the infirmaries and for the training of the staff in sick nursing, for it is essential to mental nursing that the ideals of the former should be reflected in the latter.

The great drawback to the mental hospital infirmary is the necessity for treating there tuberculosis and dysentery. The present infectious hospitals were meant no doubt to isolate odd cases of scarlet fever, diphtheria, smallpox, etc., and have occasionally been useful for this purpose, but they are too small to deal with an epidemic which assumes any magnitude, while they are totally inadequate to deal with the normal incidence tuberculosis and dysentery. The suggestion of light temporary hospital buildings which from time to time could be taken down, cleansed and rebuilt is, we think, an excellent one. Separate buildings could accommodate tuberculosis, dysentery and infective fevers, and when necessary be supplemented by tents. We see no advantage, however, in including the ordinary illnesses in such an arrangement.

A most important recommendation, for long advocated in the pages of this Journal, is that regarding adequate facilities for bacteriological and pathological work.

Adverting for a moment to the question of the responsibility of war diet for the undue mortality, this subject was one of the bones of contention between Sir Robert Armstrong-Jones and the eminently practical superintendent of Bexley Mental Hospital in certain correspondence to the *Times* during September, 1919. The former pleaded for greater regard being had to vitamins and less to calories in the diet

provided for insane patients, while the latter could not agree that war diet at all materially gave rise to the marked increase of mortality reported in the Board's report. Dr. Stansfield pointed out that in his asylum the increase of mortality affected the men and not the women while the quality of diet was the same for both. It seems possible that the lower standard of efficiency of male nursing may account in some measure for this owing to the greater depletion of male nurses.

We fail to find anything in the Board's report which "would emphasise the necessity for a complete revision of the present treatment" of the insane as stated by Sir Robert Armstrong-Jones, and he submits no extracts to justify this sweeping statement, however true it might be. We venture to suggest that it is well to be accurate, especially when the carefully worded expressions of an important public authority like the Board of Control are involved. In reality his letter only touches the Board's report as far as it deals with a specific subject, in this case the recent increase of mortality among the insane confined to county and borough asylums. Otherwise the distinguished late superintendent of Claybury Mental Hospital is both inspiring and illuminating, and there is no question in our opinion that the dieting of the insane is a matter of the greatest importance in their treatment. The primary importance of vitamins is unquestioned, nor should the question of calories be neglected. But mankind cannot live on vitamins or calories, alone or both combined, if due regard is not paid to the appetite, cookery, digestibility, personal diathesis, etc. Mass-feeding and *ad hoc* drastic weekly purging has no regard for the well-recognised tendency to neuro-vascular abdominal disturbances and colitic affections in those suffering from mental diseases and the neuroses. This is one of the matters regarding which we think the Board's control should be strengthened, and their attitude something more than that exemplified in the reports of the Commissioners at the conclusion of their annual visits of inspection, usually to the effect that they saw and perhaps tasted so-and-so served in the dining-hall or wards. It is a subject worthy of careful investigation and experiment, and economic factors such as cost, or the farm account, though important, are secondary matters.

Early in 1917, the Board laid before the Reconstruction Committee an account of its duties in relation to lunatics and mental defectives, together with suggestions for the amendment, in certain directions, of the present Lunacy and Mental Deficiency Acts. In the following year the Commissioners took a still more definite step by framing a Bill embodying their suggestions regarding better provision for the treatment of insanity in its early stages, the establishment of in- and out-patient clinics at general hospitals, the extension of the principle of voluntary boarders, etc.—matters which also have received the earnest attention of the Association, various local lunacy authorities, and others interested in better provision for the insane and the treatment of the neuroses and diseases of the mind. It is unlikely, however, that much advance will be made until Parliament has unburdened itself of some of the colossal tasks it is at present engaged upon!

A matter of importance which has received attention from the Commissioners is the effort of the nursing staff and other employees of asylum authorities to secure better remuneration and conditions of

service. We trust that the good offices of the Commissioners will be chiefly in the direction of securing greater uniformity in the methods adopted by the various local authorities in dealing with staff matters. Some authorities are very active, others very sluggish—a uniform progress would tend more readily to contentment than sporadic action.

In the report for 1917 will be found a *résumé* of the steps taken by the Board which culminated in the creation of a new category of patients known as "service patients," and a copy of the Board's "Instructions Relating to the Classification and Treatment of Soldiers and Sailors as Service Patients," issued on June 27th, 1917, is included. The Commissioners are to be congratulated on the success attained in their prolonged and difficult negotiations with the various public authorities concerned, and their adherence to the principle that sentiment when necessary must make way for utility.

The average weekly cost of maintenance in public asylums, excluding cost of repairs, additions and alterations, as might be expected, rose considerably during 1917 and 1918.

| | | | | |
|-----------|-----------|-----------|-----------|-----------|
| 1913-14. | 1914-15. | 1915-16. | 1916-17. | 1917-18. |
| 10s. 9½d. | 11s. 1½d. | 11s. 7½d. | 12s. 8½d. | 14s. 5½d. |

Regarding cost, the public must be prepared to pay heavily for the lunacy service for some years to come. It should be borne in mind, however, that ultimately improved methods of treating insanity, especially in its early stages, the outcome of special medical education and improved status and better working conditions for the staff, will save the public purse by lessening the accumulation of the chronic insane, while there will be a great reduction in many branches of public expenditure when the mentally deficient are segregated and placed in surroundings where they are more likely to assist materially in their own maintenance. It should be remembered, too, that mental deficiency is a prolific breeding-ground of the chronic forms of insanity.

We are always pleased when public attention is drawn to prominent examples of brave conduct among the nursing staff, and the deed performed by charge-attendant Bunner at Salop Asylum receives high commendation from the Commissioners. This occurrence is an illustration of the self-sacrificing spirit of asylum nurses in their relationship to patients, which all of us will bear witness to, and which is only too readily forgotten by the occasional enterprising journalist who has succumbed to the wiles and plausibility of the half-cured lunatic or quasi-paranoiac or the really vicious defective with a bone to pick.

In the report for 1917, the Commissioners again refer to the question of how best to prevent patients from injuring themselves with suicidal intent. Of the twelve cases reported in 1917 and the seven in 1918, five were known to be suicidal and presumably on parchment, and fourteen were not known to be suicidal. Among the latter were several working patients and one convalescent. The five who were known to be suicidal evaded observation; the remainder found means, in some cases of a remarkable kind, to gratify their wish. It would be interesting to know the total annual number on parchment and the number of these who made definite suicidal attempts. By such an inquiry it would be possible to arrive at some idea as to how far it

is possible to ascertain the presence of suicidal characteristics. Of course it is commonly taught that cases with mental depression and the so-called prompting hallucinations are the most suicidal, but such teaching receives but little support from the Board's annual returns. Most of us will agree that all we can do at the moment is to remove objects and means suggesting or permitting of self-injury, and to keep up the respect for the suicidal parchment by only using it in cases known to be actively suicidal. We are of the opinion that more trained nursing staff and greater facilities for individual care are the only real remedies, and if the country desires to be relieved to any considerable extent of the shock of these occurrences it must be prepared to foot the bill. On the whole, it should be well satisfied with the results obtained.

Our review is already of undue length, but by no means exhausts the points of interest and importance dealt with in these two reports. Space will not allow of more than a mere mention of the mental deficiency work of the Commissioners, which is steadily increasing in dimensions. Time alone will show whether ultimately it will overshadow lunacy, but there is no doubt that activity in this direction will lessen lunacy operations, especially as regards the chronic insane. The time may come when lunacy under a more appropriate name will be largely a routine hospital matter like other diseases, the residuum insane being housed in suitable homes, and with the degenerate, mental deficient and criminal ceasing administratively to be primarily of medical concern, though ever the subject of psychological medicine. It is of interest to note that as regards the administration of the Mental Deficiency Act, during 1918 there was some slight relaxation of financial restrictions, and that the total number of all defectives registered had grown from 7,941 in 1917 to 8,686 in 1918.

Thus in many directions does the Board show a virility which would surprise a former generation of Commissioners. Though always possessing a high sense of its duties and responsibilities, only of late years has it appreciated the necessity of leading rather than following all movements having for their objects the better treatment and care of the insane and the advancement of psychiatry in general. The need of a strong central lunacy authority keenly alive to the spirit and needs of the times has been strongly felt in the past, and the Board's bold policy and outspoken utterances of recent years have inspired a feeling of confidence and stimulated a desire for co-operation with them, and have been productive of a unity of effort which is a happy augury for successful achievements in the future.

The Brain in Health and Disease. By JOSEPH SHAW BOLTON, M.D., F.R.C.P. London: Edward Arnold, 1914. Pp. 479, with 99 Illustrations. Price 18s. net.

The keynote of this very useful book is provided by the author's generalisation of "amentia and dementia." We do not find in it any appreciable alteration of his views as previously put forth in miscellaneous papers, and though it contains some new matter, it is essentially a

representation, in book form, of the essence of his previous writings, so arranged as to provide a comprehensive survey, from his special standpoint, of the whole field of mental disease in relation to the anatomy and pathology of the cerebral cortex.

For purposes of review it is convenient to consider first the above-mentioned generalisation. Dr. Bolton, as is well known, uses the term *amentia* "to connote in the widest sense the mental condition of patients suffering from deficient neuronic development." Under this head he groups cases, not only of idiocy and imbecility, but of many types of mental disease—"chronic mania," "chronic melancholia," recurrent insanity, true epileptic insanity, some cases of hysteria and certain cases of insanity with systematised delusions (developmental paranoia)—all of which, he says, agree, from the aspect of morbid anatomy, in possessing a subnormal average brain-weight, with normal cerebral membranes, vessels and intracranial fluid, and, from the aspect of histology, in possessing a subnormal development of the cortex cerebri which, except in the severer grades, is limited to the pyramidal or outer cell-lamina of the cortex. Cases exhibiting milder degrees of *amentia* ("high-grade *amentia*") form the connecting link between the mildest type of imbecile or mental defective on the one hand and the ordinary "sane" individual of average intelligence and mental stability on the other.

The term *dementia* is employed "to connote in the widest sense the mental condition of patients who suffer from a permanent psychic disability due to neuronic degeneration following insufficient durability." Under it are included all cases which agree, from the psychic aspect, in the possession of a decreased or decreasing mental capacity, and, from the physical, in the existence of a distinct and permanent loss of cortical substance in those regions of the cerebrum which especially serve as a physical basis for the carrying on of (voluntary) psychic processes. Many cases are examples of natural involution of the cortical neurons, occurring at periods determined by inherent resistance to decay; but in many others the time at which dissolution commences, and the extent to which it proceeds, are largely influenced by extraneous factors—environmental, toxic or nutritional. If the process of neuronic dissolution be one of normal involution, or be excited by permanently existing and progressive factors (*e.g.*, degeneration of cerebral vessels), it continues more or less slowly until death; if, however, it be excited by non-progressive, temporary or removable causes (*e.g.*, alcoholic excess, puerperal toxæmia), cessation of the cause may permit an arrest of the process, and the patient may live for years in a stationary condition of mental enfeeblement. Cases of *dementia* exhibit naked-eye *post-mortem* morbid appearances which vary in severity according to the degree of *dementia* present. From the naked-eye point of view this statement is said to hold good in a general sense, even when the progress of the mental enfeeblement has been very rapid, and when, therefore, the removal of the products of the neuronic degeneration is incomplete.

"I hope," says Dr. Bolton, "that recognition of the fact that mental disease consists in essence of a large group of cases with varying degrees and types of cerebral degeneracy, and of another larger group with varying degrees and types of cerebral dissolution, will be of value."

Such, then, is his generalisation of "amentia and dementia." It is very sweeping. With it he endeavours to cover the whole field of mental disease; he does not indicate any territory over which his generalisation prefers no claim. Of course, like everybody else, he labours under some disadvantage from the fact that we possess no adequate definition of "mental disease." And it is evident that the terms "deficient development" and "insufficient durability" are purely relative, their standards and criteria varying from age to age and from place to place. To some readers, moreover, his view of mental disease as "the greatest of the degeneracies" may appear pernicious, as seeming to shut the door against other modes of investigation (*e.g.*, those relating to the microbiology, endocrinology and psychogenesis of mental disorders), and as consequently seeming to discourage therapeutic effort.

Such objections, however, will not be deemed weighty by anyone who appreciates the limitations to which all such working hypotheses are necessarily subject. The acceptance of one such hypothesis does not involve the rejection of every other. This of Dr. Bolton's, for instance, did not prevent him from consistently maintaining, for years before the discoveries of Wassermann and Noguchi, the necessary participation of syphilis in the ætiology of general paralysis. If, as an objection to his generalisation, it could justly be urged that it is obstructive to other lines of inquiry, analogous objections could be made to the hypotheses underlying all of these also. To any who should tell us, for example, that our only hope is in a recognition of the psycho-genesis of mental disorders, it could be retorted, with equal justice or injustice, that their cases have no brains, no bodies, no death, no anatomy and no pathology, and that an exclusive adoption of their standpoint would lead to neglect of the claims of the chronic insane and of the physical needs of all men. There is, of course, ample room for all the hypotheses indicated above, and for more besides. Each must be judged by its positive results within its own sphere.

What are the positive results of Dr. Bolton's hypothesis, as it is expressed in his generalisation of amentia and dementia? That it makes it possible to reduce the subject of mental alienation into a coherent system is but the least of its results. That it led Dr. Bolton directly to his valuable observations on the cortical cell-laminæ is more important. But most important is the continual incentive it gives to the general study of correlation between clinical facts and anatomical facts. This study is of two kinds; for, besides the special research, conducted by technical methods often tedious and difficult, possible only to the few, there is the study that should be continually pursued by every asylum medical officer in the course of his ordinary work in the wards and in the *post-mortem* room—study depending mainly on naked-eye observation, and not necessarily involving any methods that would ordinarily be called technical or any extraordinary additional expenditure of time. Such study may seem to lack high ideal, but under suitable impetus it can be widely diffused, and it is important because, so far as it goes, it is on solid ground, and it continually leads on to more vigorous applications of the method that has been employed with success in the past in all the major investigations in the field of medicine.

When once a medical officer has become acquainted with the gist of Dr. Bolton's teaching he acquires a new interest in the ordinary work of *post-mortem* examination, and he never loses it. At the same time he is stimulated to refine his clinical examination of his patients, in order, for example, to give greater precision to his conceptions of the clinical aspect of that "dementia" with whose pathological anatomy he is familiarising himself. Thus he is led also to a surer prognosis. Even the weaker points in Dr. Bolton's generalisation have use, as finger-posts to new inquiry. Such is the value of a good working hypothesis.

To turn now to a closer examination of this volume—it should be said that it contains little reference to the work of others, and is devoted almost entirely to the author's own observations. This being so, its contents might perhaps have been arranged more effectively if they had been made to follow mainly the historical order of development of his thought instead of the more formal order of exposition chosen. Having, in his opening chapters, dealt with cortical structure and function in the normal brain, largely on the lines of his Goulstonian Lectures of 1910, *i.e.*, in the light of his micrometric measurements of the cell-laminæ, he proceeds to consider in a similar light the cortex in mental disease, with the remark that "the data contained in this chapter provide the main proof of the generalisation of amentia and dementia." The reader is rather apt to imagine, from this, that the generalisation stands or falls by those measurements; and, as that very arduous research was necessarily limited to a small series of cases, he may well doubt whether such a small amount of material can support such a large and weighty superstructure. The truth is that the generalisation rests on a much broader foundation, already in great part laid before ever that research was commenced; and nobody contributed more to the laying of it than did Dr. Bolton himself in Part I (pp. 426–545) of his paper in the *Claybury Archives of Neurology*, vol. ii, 1903, where he reported his preliminary investigations. There he showed, by a comparison of the mental conditions with the *naked-eye* morbid appearances in a series of 200 consecutive cases of insanity, that a definite relationship exists between these. The germ of his generalisation is discoverable even farther back still, in his Royal Society paper on the visual area (*Phil. Trans.*, 1900). For a due appreciation of his work it is necessary to bear in mind these facts in its history. In the present volume he might well have given references to those papers.

It is not till later in the book that he deals with the *naked-eye* observations which really lie at the root of the matter. Micrometric work itself is but a more searching continuation of the *naked-eye* work without which it cannot even begin. Thus the foundations of Dr. Bolton's teaching are of such a kind that any medical officer of a large asylum has opportunity of testing them for himself in the course of his ordinary work. The beautifully illustrated chapter on abnormal and morbid *naked-eye* appearances is the work of a master, and is of the highest general utility. It is perhaps somewhat regrettable, however, that so little space is given to the difficult subject of convolitional pattern in relation to amentia. In this connection reference is made to the influence of mechanical conditions of growth; any extended

account of this being precluded by considerations of space, a few suggestive instances might have helped to remove the vagueness and to put the reader in the way of finding others.

The last and largest portion of the book sets forth at length the clinical aspects of the amentia and dementia thus anatomically defined, and the various *intra-vitam* data for their recognition. Here the author surveys practically the whole field of mental diseases, following for the most part the lines laid down in his papers on "Amentia and Dementia" published in this Journal in the years 1905-1908. Notes are given of many illustrative cases. Attention is chiefly devoted to those groups of cases in which the applicability of the generalisation is least obvious. Thus, under "amentia," idiocy and imbecility are but briefly mentioned, but "high-grade amentia" is discussed at length. Under "dementia" evidence of various kinds is produced to show that general paralysis, though syphilitic infection is a necessary antecedent to its occurrence, is not a special organic disease of the cerebrum—*i.e.*, it is not a mere syphilis of the brain, but is a branch of ordinary mental disease within the scope of the generalisation, and, were syphilis non-existent, the majority of existing cases of general paralysis would merely be replaced by cases of primarily neuronie dementia.

Junior students should notice what a large proportion of Dr. Bolton's illustrative cases are chronic cases, and how instructive these become when regarded from his standpoint. In this we have but one instance among many showing that his teaching, being rooted in asylum experience, is peculiarly adapted to the asylum physician's practical needs. Both in subject-matter and in method the work here presented by the Leeds professor is thoroughly indigenous to the asylum soil. To many British psychiatrists we are indebted for valuable results of special research; to some, for the excellent text-books they have given us; to Dr. Bolton we owe thanks for presenting to us in this book the essence of those original papers by which, during the last eighteen years, he, more than anyone else, has given impetus to our asylum work in general, through the inspiration of an eminently serviceable and truly native hypothesis.

SYDNEY J. COLE.

May, 1920.

Diseases of the Nervous System: A Text-Book of Neurology and Psychiatry. By SMITH ELY JELLIFFE, M.D., Ph.D., and WILLIAM A. WHITE, M.D. Philadelphia and New York: Lea & Febiger, 1919. Third edition. Medium 8vo. Pp. 1018. Illustrations, 470 engravings and 12 plates. Price \$7.

Many of our readers will be familiar with the previous editions of this combined text-book of neurology and psychiatry. The third edition, revised, rewritten and enlarged is a substantial volume of over 1,000 pages, profusely illustrated, a work designed to suit the convenience of students and practitioners, and which includes the new data which have accumulated during the war in the domains of both these sciences.

The union of these allied subjects in one treatise has its advantages, for the practice of either constantly involves a knowledge of the other,

though the difference between them almost equals that between medicine and surgery. Neurology, like surgery, is almost an exact science; and although evolving on similar lines, it will be many years before the same can be said of psychiatry and medicine. Similarly the surgeon and the physician and equally the neurologist and psychiatrist differ in mental build, and thus it happens that it is rare for a neurologist to have a real insight into normal psychology or the working of the diseased mind.

The authors, however, of this text-book have constantly in mind three levels of treatment of the subject—the vegetative, the sensori-motor and the symbolic being different aspects of the mental and physical problems “as expressed by the various forms of solutions and compromises made in the process of integration and adjustment. Not only are the different levels not distinct, but the same symptom may arise as a result of disturbance at any one of the levels. For example, constipation may be due to a disturbance at the vegetative level (vagotonic spastic constipation), at the sensori-motor level due to injury or disease of the cord, or at the symbolic level—a purely psychogenic symptom.”

It will be admitted that it is very necessary for every alienist to have a good practical knowledge of neurology, and this can be found in the work before us in a useful and readily assimilated form.

In pursuance of their plan, the authors divide their book into three parts: Part I—“The Physico-chemical Systems or the Neurology of Metabolism”; Part II—“The Sensori-motor Systems or Sensori-motor Neurology”; Part III—“The Psychical or Symbolic Systems or the Neuroses, Psychoneuroses and Psychoses.” Prior to these is a chapter devoted to clinical methods of examining nervous and mental cases, rich in details, and including many anatomical data, schedules of “questionnaire” and psycho-analytic procedures. As regards Part III we cannot but feel some disappointment, for, as in previous editions, it is very considerably a reproduction of the familiar teachings of Freud, Kraepelin and others of the Germanic school, with a minimum of mention of the work of other schools. As expositors of the German school of psychiatry our authors are excellent and their presentation of it eminently clear and readable. In this sense Part III will appeal mainly to a not uninfluential section of British psychiatrists, which, however, cannot lay claim at all to include the majority.

It might be urged that only the German teaching will fit in with the fundamental tenets upon which the work is founded, but this is not really so, for there is much more in common between the British and German schools of psychiatry than would appear on the surface, and even in many respects the former can claim priority, especially as regards basic facts. This is a fascinating aspect of the subject we cannot develop here, but speaking generally we would have been more pleased had our authors had more resource to the rich store-house of their native psychiatry for inspiration and knowledge.

The introduction to the psychical section states that “Present-day psychiatry is almost wholly a product of this century. Nineteenth century psychiatry, even well along in its latter half, had only a few relatively simple concepts with which to approach the problems of mental disease”—a strange historical retrospect, inconceivable to those

even moderately versed in the literature and work of the nineteenth century—an unparalleled period of psychiatric renaissance.

As our readers are well acquainted with the works of Freud and Kraepelin little need to be said here regarding the chapters on the neuroses, psychoneuroses and psychoses. Neurasthenia is considered "as the expression of a very marked auto-erotic fixation"—in other words due to excessive masturbation, frequent pollutions or auto-erotic fantasies. Freud supersedes Janet in the mechanism of hysteria, and psychasthenia is replaced by the compulsion neuroses. "Shell-shock" has a brief paragraph devoted to it and is divided into cases with actual physical nervous injury and cases of true conversion hysteria, or anxiety hysteria. This is also Mott's view. Anxiety neurosis is the outcome of inadequate discharge of the energy of the sexual act in the psychic sphere. As regards the actual psychoses, manic-depressive insanity remains in its usual setting, but involuntional melancholia has ceased to be a stumbling-block, and has joined the manic-depressive group. Epilepsy is treated from a distinctly wider standpoint, and dementia præcox historically is fairly stated. The symptomatology of the latter is given on the usual lines, and its nature and pathology discussed at length. Our authors conclude that for the present it must be considered as an introversion psychosis and the explanation of its symptoms sought psychogenetically. Having regard to Mott's recent work on this subject and his conclusion that dementia præcox is a primary nuclear degenerative process with no inflammatory reaction, and also its relation to the endocrinopathies, it seems possible that, like general paralysis, it will eventually be removed from this section of the book. The psychogenetic schools, especially those with a strong sexual bias, are slowly but surely being undermined in the interpretation of the true psychoses by the work of Mott, Robertson and Shaw Bolton and others. The question of cause and effect in relationship with pathology and psychopathology is of vital interest to alienists, and no school can afford to be dogmatic in this matter in the present disturbed state of our knowledge. The endocrinologist, the bacteriologist and the biochemist, as yet shadowy figures, are slowly materialising, and their day is yet to come when many a cherished theory will fade away and become a curiosity to future generations.

Parts I and II, which form the bulk of the work, can be wholeheartedly commended. An immense field of neurology is covered, the whole being work characterised by a clarity of diction, unclouded reasoning, a comprehensive marshalling of masses of details, and quick and convincing decisions. The endocrinopathies form an absorbing chapter full of interest to the alienist, the mental desiderata being very ably written. Ophthalmic migraine is exhaustively dealt with, and among the sensori-motor disturbances the sections dealing with speech disturbances, aphasia and neuro-syphilis merit special mention.

The scheme of kinetic speech disturbances adopted is one by Veraguth, and the description of the aphasias is not overburdened with a number of confusing and, after all, not very important more or less theoretical subvarieties. "To completely analyse a single case of aphasia according to present-day requirements requires years of painstaking observation, two or three years of more or less continuous

microscopic technical manipulations, and at the cost of thousands of dollars." Would that all writers of text-books developed such candour!

General paralysis is placed in the neurological section in the chapter on neurosyphilis. It is called the parenchymatous or central type of cerebral syphilis and described in six forms: dementing, depressed, expansive, agitated, irregular and juvenile. The view is taken that the pathological processes are all the same in neurosyphilis, and "the clinical manifestations extremely variable, complex and confusing, depending upon the interactions of the pathological trends and the localisation of the anatomical paths interfered with." Commenting on the pessimistic attitude adopted to general paralysis, it is remarked that "this is one of the gravest reflections brought against a *laissez-faire* handling of the so-called 'hopeless paretic' in institutional or in private work. Many curable paretics are grossly neglected because they are diagnosed incurable. Neurosyphilis meningovascularis is usually very amenable to treatment. Often its clinical picture is that of a paretic." A case illustrative of this recently occurred at Brentwood which was investigated by Mott and Turner. The relationship between the Argyll-Robertson pupil and cerebral syphilis, its variability and significance during treatment is discussed at length. Its presence is considered a fairly positive but not absolutely positive proof of nervous syphilis. Its absence, however, by no means negatives syphilis of the nervous system. This chapter is one of the best in the book and nothing more comprehensive will be found anywhere.

Though there are now many really fine modern English text-books of psychiatry to select from, yet none of them cover quite the same ground as the one under review, which is especially valuable for its correlation of neurology and psychiatry, and a useful volume to have at hand as a work of reference for both students and practitioners, especially those with a meagre medico-psychological library and few facilities for consulting the larger standard works.

J. R. LORD.

A Manual of Neurasthenia (Nervous Exhaustion). By IVO GEIKIE COBB, M.D., M.R.C.S. London: Baillière, Tindall & Cox. Demy 8vo, pp. xvi + 366. Price 12s. 6d.

This is a book which will appeal to general practitioners who of late have been striving to retain a practical and common-sense attitude towards a subject they have to deal with constantly in their daily round of work. Of late there has been a flood of literature on the neuroses and psycho-neuroses, much of it difficult for the busy man to follow; facts claimed to have been established which apparently are entirely against cherished convictions and experience; and lines of treatment advocated which seem impracticable except in the hands of the psychiatric expert. A judicious work which endeavours to correlate all that is known on a much-discussed subject, having regard to practical applicability, is always welcome at such a juncture, and this Dr. Cobb endeavours to supply.

Whatever is the real meaning of the conditions which are covered by the term "neurasthenia," to the physician it is a definite malady

presenting variegated yet constant features. The condition dealt with in this work is neurasthenia in a wide sense, the author's definition being "a condition of nervous exhaustion, characterised by undue fatigue on slight exertion, both physical and mental, with which are associated symptoms of abnormal functioning, mainly referable to disorders of the vegetative nervous system. The chief symptoms are headache, gastro-intestinal disturbance and subjective sensations of all kinds."

The historical section traces the career of neurasthenia from the original description by Beard, of New York, in 1868, noting that as far back as 1843 E. Hersch described the nature of neurasthenia "in a way which corresponds entirely with our modern views," through the onslaught of the psychopathic school, describing the influence of Clifford Allbutt, Tanzi, Mott, and Stoddart as regards its definition and ætiology, down to the author's own conception of the disease.

Chapter II deals with ætiology from the standpoint of sex, age, class, heredity and physical agents, laying great stress on influenza, which "may be regarded as an extremely frequent and potent source of neurasthenia." The mental aspects, mental causes and effects are dealt with in a separate chapter. The close interaction between psychical and physical causes is insisted upon. Neurasthenia is a psycho-physical disorder in which the influence of heredity and the degree of normal stability must not be under-estimated. The psychological schools led by Prof. Freud are agreed with in part, and due note is taken of the influence of mental dissociation, upon which great stress is laid by the American school. Dr. Cobb's telling manner of dealing with the many divergent views carries with it the conviction that the truth of the matter lies in a middle course. The school which lays it down that neurasthenia is the outcome of masturbation assisted by mental fatigue, toxæmias, etc., is too narrow to meet the results of practical experience, even excluding such conditions as anxiety neurosis, with which there need be no confusion.

Several chapters deal with symptomatology, asthenia, headache, gastro-intestinal symptoms, sensory disturbances, insomnia and objective signs. All are fully described with praiseworthy clarity, especially the gastro-intestinal disturbances. For example, the latter embrace anorexia, catarrhal disorders, disorders of secretion, dilatation and ptosis, and constipation—intestinal and rectal. As regards these, the vexed question of cause and effect is discussed at length. Nervous symptoms may precede or follow their appearance—in any case, once established they have a profound effect on the neurasthenical condition, and it is imperative that they should be treated carefully. Truly many sufferers by the time they seek advice are a "tangled skein," and it is important to study every morbid symptom presented and call in every assistance to reach a correct diagnosis of the many affections that may arise.

In the chapter on diagnosis a claim is well sustained for neurasthenia to be considered as a separate clinical disorder. The author does not include phobias, obsessions, anxiety states, etc., and his definition of neurasthenia is in reality only a part of Beard's original conception of the disease.

A good fourth of the book is devoted to treatment under such headings as general hygiene, diet, drugs, climate, psychotherapy, electricity and special treatments. All of this reads sound, nothing impracticable is suggested, and the details of treatment are easily followed and inspire confidence. Psycho-analysis is recognised as being useful in selected cases only, the majority needing other therapeutic procedures.

The range of this work will now be manifest to our readers, and its advent at this moment will satisfy a real want in view of the present disturbed state of our knowledge on this and allied subjects.

J. R. LORD.

Shell-shock and its Lessons. By G. ELLIOT SMITH, M.A., M.D., F.R.C.P., F.R.S., and T. H. PEAR, M.A., B.Sc. New Impression, Manchester: University Press. London: Longmans, Green & Co., 1919. Pp. 135. Cheap Edition, 1s. 6d.

This excellent little volume was first published in 1917 and a cheap reprint is to be welcomed, as it may thereby gain a larger circulation among the general public, for whom it is intended, as well as for members of the medical profession. Though the war is over the question of the war neuroses is still a pressing one both from a social as well as from an individual point of view. There is no doubt that a number of these cases are drifting into a condition of chronic inadequacy on account of their nervous illness, and it is of great importance that the practitioner should know how to deal with them, and thus be in a position to direct them towards a life of happiness and utility. The nature of "shell-shock" and its treatment are explained in clear and non-technical language, the psychogenetic factors are emphasised, and stress laid on the importance of psychological analysis and re-education in bringing them back to mental health. Sufficient is said to indicate the extreme interest of the subject, and no one could read the book without realising the utter inadequacy of mere "tonic treatment" for any form of psycho-neurosis—a form of treatment which is even now often the only therapeutic agent employed. The authors state in the introduction that their aim in this volume extends beyond that of the problem of the war neuroses, and they express the hope that the lessons of the war in respect to the treatment of mental disorder will be followed by a more enlightened policy in the case of civil psychoses and neuroses. The statement that "To the long list of sciences which . . . must be cultivated more assiduously after the war should be added—but not at, or even near, the end—psychiatry, the science of the treatment of mental disorders," will find general assent from those concerned with this particular branch of medicine. The concluding sections of the book deal with the defects in the present system of treatment and the directions in which reforms should be undertaken. These matters are, of course, quite familiar to readers of this Journal, but such views can hardly be too widely diffused amongst the profession generally and the educated lay public.

We may perhaps suggest, however, that the layman, after reading this book, will probably gain a much more unfavourable view of asylums

than they deserve. The defects, largely the result of the system under which they have to be administered, receive every emphasis, but the advance in the care and treatment of the insane in these hospitals, which is so remarkable in many directions, is entirely overlooked.

H. DEVINE.

Étude critique sur l'Evolution des Idées relative a la Nature des Hallucination Vraies. By Dr. RAOUL MOURGUE. Paris: Jouve et Cie, 1919. Pp. 67.

It may almost be said that no problem of psychiatry is more deserving of attention than that of hallucinations, in so far as it inevitably includes the elucidation of other associated abnormal mental symptoms, such as the feeling of being controlled and influenced, and the delusional rationalisations which the individual erects in order to explain his unaccustomed mental experiences. As the title indicates, this study does not aim at suggesting a new theory, but it includes a review of the various conceptions, especially those of the French school, as to the nature of hallucinations. It is thus a useful little book of reference for those interested in the subject, especially as it includes an excellent bibliography.

In his introduction the author suggests that in psychiatry the time for wide generalisations has passed, and that what is now required is a return to the analytic study of facts. He points out how the Kraepelin school, with its emphasis upon nosographic, ætiological and prognostic considerations, and its neglect of isolated symptoms has been in a certain sense harmful to the study of hallucinations, and especially so to the psychological conceptions which are essential to the understanding of the subject. He proceeds to trace the development of the various theories, including the earlier ones in the seventeenth century, which have been advanced to account for hallucinatory phenomena, and after a survey of the current anatomical, clinical, and intellectual theories he inclines to the view of Baillarger in 1846, who 'among all the authors studied has appreciated the difficulty of the question, and who counselled, with the prudence of genius, the patient and analytic study of facts,' and for whom "no theory was yet possible."

On the whole the theories here discussed are somewhat mechanical, and especially do we miss any reference to the important studies of Flourney in regard to teleological hallucinations. The absence of any discussion of the influence of the unconscious, and of the dynamic factors instrumental in the production of hallucinatory phenomena somewhat diminishes the value of this study.

H. DEVINE.

Part III.—Epitome of Current Literature.

1. Psychology and Psycho-Pathology.

Social Fatigues and Antipathy [*Les Fatigues Sociales et l'Antipathie*].
(*Rev. Phil.*, Jan.-Feb., 1919.) Janet, P.

In this article of 71 pages Prof. Janet deals with the question of the influence which neuropathic subjects exert upon those with whom they are associated. Each point in this paper is emphasised by reference to actual cases, and it contains a wealth of clinical detail which cannot be included in an epitome. To understand fully the therapeutic value of isolation, and to apply it with precision, it is necessary to consider the costly effort which life in society exacts, to consider the influence of one man on another, especially in so far as one individual by his exactions may create a state of lowered psychological tension in another with whom he is associated. A study of the social conduct of a neuropath in relation to his family will indicate how and why separation from certain persons is so important in some instances. These psychasthenics exhibit social abulia, avoidance of any effort, lack of practical achievement; they can neither command nor obey, they are incapable of real affection, and though they talk much of their feelings, these result in no kind of service for others. Not only do they protect themselves from actions which they dread, but they hinder and oppose others in the family and have the whole household at their mercy. There are a number of morbid impulsions and inferior mental operations by means of which the neuropath dominates the family. Thus there is *the mania for helping*, in which the individual wishes to participate, and actually hinders, the activities of others, an exaggeration of that tendency of those incapable of physical exercise to watch sports or read sporting papers. A patient expresses this attitude in the phrase, "My dream is to sit with a man who works, especially a man who writes. Oh! let me watch you write for a whole evening." This tendency may extend to an insistence on useless and futile collaborations. Then there is the *mania for authority*. Giving orders when it implies direction and initiative is a difficult psychic operation, but there is an elementary form of domination in which an individual formulates an action without accomplishing it himself and without any consideration as to the value, utility or interest of the act. Neuropaths find in such orders extreme satisfaction and at times people placed in positions of authority develop a mania of this kind. Neuropathic *authoritatives* are divided into two types, those who seek to obtain obedience by moaning entreaties, and those who attack and threaten the members of the family in order to reduce them to slavery and to prevent them from having any freedom. Such patients will obtain their desires by threatening to die if they are thwarted, or by insisting on constant sympathy, any relaxation of such an attitude provoking a scene. Obedience is also secured by the *mania for love*, the constant demand for every expression of affection. Prof. Janet points out that all these abulics are extremely insistent on their "rights," whereas the man of action is not worried with his rights but devotes

himself to the task in hand. Domination is sometimes secured by the *mania for devotion*, in which individuals are constantly rendering little services and giving useless presents to others, such generosity having always something bizarre and abnormal, designed to humiliate and exact innumerable thanks. It is only a method of acquiring recognition, protection, regard, flatteries, of playing a *rôle*.

Unfortunately all these efforts to dominate, to make themselves loved, do not succeed and do not cure the patient, and so he adds new efforts, which in their turn degenerate into forms of mania. Thus there is the *mania for teasing and sulking*. The former depends on the need of verifying their power over people; it is an attack, a wound, a humiliation made on someone it is desired to dominate, from whom caresses and flattery are desired. Pouting and sulking have a similar mechanism proceeding by the method of indifference and simulated rupture. Both these forms of conduct are often completed by the act characteristic of a neuropath known as "making a scene"—*mania for scenes*. Other pathological manifestations are morbid jealousy, *the mania for disparagement*, and the *mania for spitefulness*.

Such characteristics naturally provoke a reaction on the part of those with whom these psychasthenics are associated, and this reaction is essentially complicated and difficult. The relatives have to decide and choose for them, keep their interests in the foreground, accept responsibility for all their actions. They are essentially gloomy, they prevent actions in others, and interfere in those which they permit. The mania for orders involves obedience to all kinds of absurd commands; the continual complaints tend to give rise to a similar attitude amongst the entourage; the mania for rights inflicts constant humiliations and provokes a reaction of defence; the mania for scenes, as for instance in a jealous husband, necessitates that every action and gesture must be guarded and almost the whole social life abandoned. Such reactions are of necessity exhausting and only possible at considerable expenditure of mental energy. Antipathy is generally regarded as an intuitive dislike of people, a warning that there is something dangerous about them, but the view is here developed that antipathetic persons, those whom we fear and fly from, are those who menace us with a real danger which psychologists have not understood; they menace us with weariness, with mental depression, exhaustion. Individuals are economical of their mental activity, they feel a commencing hatred of, a sentiment of aversion for, a desire to rid themselves of those who exact an increased expenditure of mental energy and who necessitate an increase of psychological tension.

The question of the neuropathic group and the contagion of the neuroses is next considered. In any given social group an isolated neuropath is the exception and around him are nearly always others showing signs of some form or another of lowered psychological tension. In families this is often regarded as evidence of heredity, but this is not always the case—it is rather the result of the stress which one neuropathic person exerts upon those with whom he is associated. The social characteristics of psychasthenics are such as to create a condition of lowered psychological tension in those with whom they are in contact owing to the prolonged mental effort and complex reactions which their

conduct demands on the part of their associates. This mechanism, to which the term *contagion* has often been loosely applied, is responsible for many cases of mental disorder. The writer points out that for the public the term mental disorder is confined to definite insanity, the milder forms not being recognised as such. Insanity is really only a legal and not a medical term, and there exist to-day on all sides individuals of the type described who are not regarded as suffering from mental trouble or indeed any illness at all. Many of these cases and also their families would be astonished if they were told that their trying conduct was the expression of mental disorder. It is most necessary to notice carefully the influence of a neuropath upon his social milieu, especially from the point of view of treatment of the dangerous member of a group by isolation, in order to arrest the already threatening neurosis amongst the other members.

H. DEVINE.

The Symbol as an Energy Container. (Journ. Nerv. and Ment. Dis., December, 1919.) Jelliffe, Smith Ely.

Life is dependent on the energy around it. Being marked by the quality of growth, it must not only seize the energy through its protoplasmic structure, there transform it, and then put it forth, but it must unceasingly devise new means, new carriers for all these three processes. Human speech is such a means. Not consciously but unconsciously, man has made words because he has felt, though not understood, the necessity for a larger and wider self-expression—for more capture of energy, more work upon it within himself, and more giving of it out.

The psychic significance of language is to be sought in the symbolism it represents. The history and development of desire, and its striving through successive ages of culture, show how it continually overflows any container or pathway by which it may be expressed; so the symbol must be that which comes to express, first, the simple direct chemico-physical needs, then the more complex organic wants which have grown out of these, and far more, in course of time, the social reactions. It sweeps the gamut of human experience, from the lowest reactive sensation up to the remotest re-symbolisations of intellectual thought with its ever-present emotional accompaniment. This cannot all become conscious; conscious awareness could not attend to all this at once, as it might appear in one line of action. The various cultural psychic layers constituting the individual mind are too numerous, and are mostly too unacceptable to the cultural standard existing at the top. Yet they cry for expression both as feeling and as idea.

In act, in decorative art, in religious custom, in sound, but most elaborately and extensively in speech and language, the symbol has been and still is being prepared for this service. It is the means whereby the hidden desire, with its idea, is touched and its energy secured, while it still covers and obscures the actual meaning of these so that the higher cultural standard is satisfied and finds its own full representation. The symbol becomes the great energy container and the great comprehensive device of discharge back to the world outside.

Language has a trend towards fixity, without which it would be deficient in value. Yet to a large extent this fixity is only apparent. For the word is the tool of a constantly fluctuating life; it is not only the container of what has been, but the suggestive and plastic symbol of what may be. Language is no static thing. In the mouth of the last speaker it takes colour and force from his mental life: a definite act of creation takes place ("the chief and only really satisfying act of life"), and through it a contribution to evolution.

Every word, as a symbol, contains in its history "a monograph on the cultural history of mankind" (Mauthner); and psycho-analytic literature has dealt abundantly with the actual unconscious content of the symbol—that which gives it one side of its energetic value. But equal emphasis must be laid on its dynamic significance: as it is always reaching out towards the environment of the present, and through the present into the future, so it builds up the communal feeling (Glatz), and cradles and nurtures morality (Dacien). SYDNEY J. COLE.

Retro-active Hypermnesia and other Emotional Effects on Memory.
(*Psych. Rev.*, November, 1919.) Stratton, M.

As effects of excitement may be noted—(a) those which are transitory, occurring during the excitement, and (b) those which persist. As transitory effects there may be an apparently general hypermnesia, in which there is a marked freshening of all memories, or there may be a selective hypermnesia, where certain rather narrow lines of association are followed. The lasting effects may be hypermnesia, hypomnesia, or total amnesia for events experienced during the excitement. The following lasting effects may also be noted upon experiences that have occurred before the emotion: (1) The well-known retro-active amnesia; (2) The opposite, retro-active hypermnesia to which little attention has formerly been paid; (3) a combination of both these effects; for the same person the stretch preceding the critical event may show vivid recollections followed by a period of utter blank. The retro-active hypermnesia in the author's cases rarely goes beyond the events of the day preceding the excitement. It occurred in 25 out of 225 cases. The antecedent events are unusually vivid—more vivid than any other of the patients' memories. The vividness is not confined to visual images, although these are more frequent; sounds, the mood, the general state of the mind may be clearly represented. There is some indication that women experience it more frequently than men. In some cases the effect has come at some crisis at early childhood, in others at a later date. The quality of the emotion seems of less importance than the intensity of the shock. Fear, or fearless surprise, or pleasurable surprise may be the cause. If the intensity be exceeded the experiences connected with it are in some degree suppressed; while if it be not reached the experiences are lost probably by a mere failure to gather up the events into the mesh of interest. Emotion facilitates the recall of whatever is noticed during the excitement, and it seems probable that memory images may be treated by the emotional onrush in the same way as perceptive images. The experiences of the preceding day, however, probably do not exist as actual images at the

time of the emotion but as psycho-physical dispositions or traces, so that where there is retro-active hypermnesia the emotion would seem to have the power to strengthen these dispositions and the connections by which they may be called into life. The author gives illustrative cases.

C. W. FORSYTH.

2. Neurology.

Some Observations on the Influence of Angle of Section on Measurements of Cortex Depth and on the Cyto-architectonic Picture. (Journ. Nerv. and Ment. Dis., April, 1918.) Orton, S. T.

The author gives the results of his control measurements of sections from various cortical areas. He used a special block-holder, equipped with a scale, and rotatable, so that from one block of cortex seven or eight planes of section could be made, cutting the cortex at as many different angles. All the measurements were made at the apex of convolutions, where the axes of the majority of nerve-cells pass vertically into the white matter. The depth increments referable to obliquity are tabulated as percentages of the shortest measurement. He concludes that, using sections cut and mounted with extreme care to avoid undue obliquity, one may expect an error of something under 6 per cent., of which almost one half is due to difficulty in determining the line of demarcation between cortex and white matter. The fixing of this line is somewhat arbitrary, owing to the rather gradual and straggling manner in which the spindle-cells of the lowest cortical layer disappear as the white matter is reached.

The cyto-architectonic picture is not much altered except when obliquity is marked. Owing to the wide variations in their vertical orientation, the apparent shape of the pyramidal cells will not serve as an accurate control, though, by ascertaining the proportion of truncated cells to those with long processes, one could probably detect an obliquity sufficient to induce a depth error of 10 per cent.

He discusses the significance of depth for evaluation of the cortex, and considers the spatial importance of the vascular system and neuroglia, as well as of variations in the number and volume of nerve-cells and nerve-fibres. He notes the occasional occurrence of great cell richness in a thin cortex, due perhaps to lack of development (or possibly to devastation) of intercellular structures, or to diminished thickness of myelin sheaths. A small brain, whose size is dependent, not on a reduction in number of essential structures, but rather on the size of the constituent elements, may yet in a functional respect be fairly normal.

SYDNEY J. COLE.

3. Clinical Psychiatry.

Atypical Form of Arteriosclerotic Psychosis: A Report of a Case. (Journ. Nerv. and Ment. Dis., December, 1919.) Uyematsu, S.

A married woman, æt. 40, began to have difficulty in doing her work, complaining of headaches, which gradually became more severe. Her memory gradually failed for both recent and remote events. After

about seven years walking became difficult, and finally she was bed-ridden, being unable to stand. A tremor of the hands developed, and it was necessary to feed, dress, and care for her. No syphilitic evidences; Wassermann negative in blood and spinal fluid. No sclerosis of peripheral arteries. Blood-pressure 160-80. Pupils irregular, the right dilated; reaction to light slow, to accommodation *nil*. Tactile appreciation slightly impaired; inability to localise readily for touch or space; wincing to pin-pricks. Knee-jerks exaggerated. Right ankle clonus. No Babinski. Marked tremor of hands, tongue and lips. Speech retarded and slurring. The clinical condition much resembled general paralysis, except for its protracted course and the negative Wassermann. Diagnosis, "cerebral tumour?" Died comatose at the age of 48.

Brain 970 grm. Dura thick. Pia slightly opaque; much fluid beneath it. Diffuse atrophy of convolutions, very marked over vertex, and involving the posterior parts of the frontal lobes, and the entire parietal and occipital lobes. The only parts that did not show this curious atrophy were the orbital portions of the frontal lobes, anterior part of superior frontal gyri, anterior part of gyrus fornicatus, the superior and middle temporal gyri, opercular portion of left hemisphere, the insulæ and unci. The healthy portions are related to certain regions of arterial blood-supply. At the points of greatest atrophy the cortical surface had a moth-eaten appearance (*état vermoulu* of Pierre Marie). Old hæmorrhage in left internal capsule. The vertebral arteries, basilar, internal carotids and major arteries of cerebrum and cerebellum all very sclerotic. Sclerosis of coronaries; commencing sclerosis of aorta.

In the cortex, immediately under the glial surface, were many small cystic areas, mostly triangular or wedge-shaped, with their bases against the surface. Some lay deeper, and these were mostly under the valley between two gyri. The cysts were surrounded by a luxuriant growth of glia. The inside of the cyst was not empty space, but was occupied by a net-like structure of capillaries, perivascular connective tissue, glia fibres and a few cellular elements. The condition is rare, and resembles Fischer's *spongiöser Rindenschwund*. Side by side with cystic areas were scar-tissue formations. The smaller vessels of the cortex showed here and there a "packet formation." Somewhat similar changes were found in the cerebellum. The author attributes them all to arterio-sclerosis, of unexplained ætiology, not syphilitic. No syphilitic endarteritis found anywhere.

A full and detailed report. Fifteen photographs; those showing the naked-eye distribution of the atrophy are particularly interesting. Commentary; survey of literature; bibliography.

SYDNEY J. COLE.

General Paralysis and Traumatism. [*Paralyse Générale et Traumatisme*]. (Rev. Neur., No. 22, October, 1915.) Benon, R.

This prolific writer here surveys the diverse opinions of authors respecting the significance of injury in the ætiology of general paralysis, since the first description of the disease by Bayle in 1822, and gives eighty-four references. He considers that injury can act neither as a determining nor as a predisposing cause, and that it is very

doubtful whether it can act even as an occasioning cause. Injury can, of course, accelerate or aggravate a pre-existing general paralysis, but it is not certain that it can give rise to the disease, even in a syphilitic subject. On this point, scientifically, an attitude of the greatest reserve is necessary, but for medico-legal purposes it is often right that an injured person should have the benefit of the doubt. The writer sets forth the differential diagnosis between traumatic dementia (strictly so-called) and post-traumatic general paralysis. His account of the medico-legal aspects of the question is mainly of French interest.

SYDNEY J. COLE.

The Diagnosis of "War Psychoses." (*Arch. of Neur. and Psychiat.*, vol. 2, no. 2, August, 1919.) McPherson, G. E., and Hohman, L. B.

The writers consider that many diagnostic mistakes were made in war psychoses owing to the tendency to crowd cases into one of the two great pigeon-holes, manic-depressive insanity or dementia præcox, and that in many instances little attempt was made to understand the cases as reactions in terms of personality, conflicts and wishes. Many cases showing symptoms of these psychoses occurred in unadaptable individuals and the disorder readily cleared up upon removal to hospital. Many illustrative cases are given which enable the writers to conclude that: (1) affective disorders were frequently mistaken for dementia præcox; (2) psychoses showing typical schizophrenic development had recognisable benign features; (3) acute confusional hallucinatory psychoses with fear were incorrectly diagnosed as dementia præcox; (4) acute paranoia was a relatively common psychosis; (5) the distinction between psychosis and psychoneurosis is untenable.

H. DEVINE.

(1) *Psychoses and Influenza.* [*Psychosen nach Grippe.*] (*Monatschr. f. Psych. u. Neur.* 1919, vol. 46, page 267.) Hitzenberger, K.

(2) *Psychoses associated with Influenza.* (*Arch. of Neur. and Psychiat.*, vol. 2, no. 3, September, 1919.) Menninger, Karl.

Observations on psychoses associated with the influenza epidemic of 1918. The material is divided into two groups—(1) cases in which influenza was the direct cause of the psychosis, fever-delirium, and post-febrile amentia; (2) cases in which the toxic condition aroused a latent tendency to mental disorder. Naturally only the severest cases of delirium came under treatment in the clinic and fifteen are included in this study. The symptoms were confusion, terror, psycho-motor excitement, and delusions of persecution and poisoning associated with hallucinations. The majority of cases were men; the earliest onset was the second day of fever and the latest the eighth; the prognosis in respect to life was bad, 12 cases ending fatally, whilst the mental symptoms subsided with the fall of the temperature in the three cases which recovered. Post-febrile cases numbered 30, the greater portion of whom were women. The symptoms were association disturbances, confusion, and hallucinations, and the psychosis began with sleeplessness, fatigue, irritability and nocturnal hallucinations, some cases of short duration remaining at this stage. The prognosis was good, and no case ended

fatally. The interval between the fall of temperature and the onset of mental symptoms varied from two to fourteen days. In no case was the influenza the sole factor in the production of the post-febrile psychoses. An hereditary factor could be excluded, but lactation, pregnancy, alcohol, or malnutrition appeared as subsidiary causes. In view of the relatively small number of psychoses in a widespread epidemic the writer concludes that there must be an unknown causal factor in these cases.

The second group includes cases of melancholia, mania, dementia præcox, and delirium tremens, and in these cases the influenza is to be regarded as the immediate influence which brought the latent psychosis to the surface.

The second paper is a study of 120 cases at the Boston Psychopathic Hospital in which influenza was an apparent factor in the production of mental symptoms. Southard's eleven-group nosology is adopted in grouping the cases. The conclusions of the author are clearly seen in his summary by paradigms, exemplifying the psychiatric effects of influenza, *viz.* :

(a) In the process of *creation* : normality + influenza = delirium, apoplexy, senile psychosis, schizophrenia, cyclothymia, hysteria.

(b) In the process of *precipitation* : predisposition + influenza = delirium tremens, schizophrenia, cyclothymia, psychoneurosis.

(c) In the process of *alteration* : morosis + influenza = imbecility, epilepsy + influenza = alterations in frequency and type, psychopathy + influenza = psychosis, latent neurosyphilis + influenza = general paresis.

Influenza thus acts on the brain in three ways : to create psychoses, to precipitate psychoses in predisposed subjects, and to augment or alter their form when already existent. While we cannot regard influenza as capable of *qualitative* psychic specificity, yet the *quantitative* specificity is confirmed by its remarkable potency and versatility.

H. DEVINE.

4. Treatment of Insanity.

An Introduction to Psychotherapy. (Edin. Med. Journ., February, 1920.)
Robertson, George.

The author considers that pain and its analogues, malaise, discomfort, ill-being, etc., whether of functional or organic origin, being forms of sensation, are essentially mental phenomena arising in the brain, and can be removed by psychotherapy. That the mind can act upon the body and influence every function is a well-established fact. It is possible, too, that certain organic changes, vascular disease, heart disease, etc., may be traced to certain mental processes—*anxiety*—causing excessive secretion by the adrenals. In every case of illness some of the symptoms are due to suggestion either from within or from without. This was seen in many of the "slow recoveries" in the war due to auto-suggestion. In organic disease psychotherapy cannot effect a cure, but in every case it can assist and give relief to suffering, *e. g.* pain in cancer. In earlier days suggestion was employed unconsciously in the use of charms, amulets, religious relics, etc., in later days in mind-cures

and Christian Science. The relief of symptoms shows that faith alone is a potent curative agent, and that the majority of the ordinary symptoms are mental in nature and removable. The methods employed in psychotherapy are suggestion under hypnosis, suggestion in the waking state, persuasion and re-education, and psycho-analysis. In "superficial" cases immediate results often follow suggestion, but in the more chronic cases the removal of a symptom by suggestion is often followed by relapses, a new symptom taking the place of the rejected one, as the underlying condition of morbid suggestibility has not been removed. To overcome this condition Dubois introduced the method of persuasion. He thinks that an appeal should be made to the intellect by talks with the patient on the subject of his nervous symptoms. Persuasion is to some extent a form of suggestion, as in all degrees of belief feeling as well as the intellect is involved. Upon re-education largely rests the completeness of the cure; the connection between the mental antecedents and the symptoms are explained to the patient; when these are understood and acted upon his mal-adaptation ceases. Freud has shown that the patient may be most profoundly influenced by feelings and ideas of which he is quite unconscious. No persuasion avails until the unconscious motive of his mental or nervous symptoms has been uncovered. The process by which this can be done is known as psycho-analysis. Three methods of probing the unconscious mind are mentioned—the word-association test, the free association of ideas, and the analysis of dreams. Psycho-analysis has its limitations. It is not usually successful in curing persons above middle age; even when successful the treatment may take months. Robertson thinks that in many cases it is unnecessary. No successful physician who has not given attention to this subject has the faintest idea of the extent to which he employs psychotherapy unconsciously. Every practitioner and student of medicine must be taught the part the mind plays in the chief symptoms of disease, and he must consciously use psychotherapy in the treatment of these. His success will depend on the depth of his convictions.

C. W. FORSYTH.

5. Pathology.

A New Method for the Estimation of Minute Quantities of Nitrogen in Organic Substances, which Furnishes a New Quantitative Method of Diagnosis in Some Cases of Mental Disease. (Report No. 2 from the Chemical Laboratory, Cardiff City Mental Hospital.) Stanford, R. V.

The method employed consists of three stages: (1) The conversion of the total nitrogen into ammonia by the Kjeldahl process; (2) the conversion of the ammonia into pure aqueous solution; and (3) the calorimetric estimation of the ammonia in this solution by means of Nessler's solution. The result is expressed as "nitrogen number," which denotes the number of hundredths of a milligramme in 1 c.c. of cerebro-spinal fluid. In general paralysis there is a high nitrogen number, which is marked towards the termination of the disease. It may be low in the early stages or in remissions. In mania the nitrogen number is always low—a factor of diagnostic importance in distinguishing

between this disease and maniacal phases occurring in general paralysis. In imbecility, dementia præcox, paranoia, amentia and epilepsy the nitrogen number varies, but is usually low, and in terminal dementias it is very high. It was also found that density and nitrogen numbers run parallel to one another, with the exception of epilepsy, where high density obtains. The author emphasises the fact that choline does not occur in the cerebro-spinal fluid in mental diseases, and that ammonium salts only occur in the merest traces.

F. E. STOKES.

Hyperglycæmia in Mental Disorders. (*Brain*, vol. 42. pt. iii, October 1919.) Koody, F. H.

Hyperglycæmia is found in emotional states and may lead to temporary glycosuria even in normal persons, and it may exist with normal metabolism. It may be found in mental disorders with emotionalism and the mechanism of its production is by stimulation of the suprarenal glands causing hypersecretion of adrenalin, which circulates to the liver, where more glycogen is mobilised and in consequence more glucose is found in the peripheral blood. In this research Bang's modified method was used for the examination of the blood for glucose, and examinations were made before breakfast and $\frac{3}{4}$ hr., $1\frac{1}{2}$ hrs., and $2\frac{1}{4}$ hrs. after this meal which consisted of 100 grms. of bread and 200 c.c. of milk. In dementia præcox and epilepsy the blood sugar was found to be sub-normal before and slightly above the normal after breakfast. In dementia paralytica and non-anxious melancholia the blood sugar was slightly above the normal before and considerably above the normal after breakfast; and in anxious melancholia the highest blood sugar content was found at all times. In amentia, anxious patients showed a great increase of blood sugar after breakfast as compared with non-anxious patients, and in mania a similar increase was present in real emotional states, but was absent in hypomaniacal forms in which the patient was only optimistic and cheerful.

Cannon first suggested that hyperglycæmia might be useful to animals in emotional states, as it provides the muscles with a larger amount of sugar for combustion during the actions which follow or accompany the emotions, *i.e.*, fright or flight. This strong sympathetic impulse also causes other reactions which are useful to the animal economy in such conditions, *viz.*, increased blood-pressure, widening of the pupil, erection of the hair, inhibition of the salivary, sweat, lachrymal and gastric glands, and of the motility of the intestines. Gaskell points out that both the involuntary and voluntary nervous system can be divided into a somatic and splanchnic part—the former, represented by the thoracico-lumbar outflow of the sympathetic division, supplies the heart, blood-vessels, and skin musculature throughout the body: the latter, consisting of the bulbar and sacral outflow, motivates the muscles of the alimentary canal. In emotions of rage, fear, etc., when the animal had to flee or fight, the whole somatic nervous system both voluntary and involuntary would come into action.

Cannon's theory affirms physiologically Gaskell's anatomical conception. In melancholia with anxiety and in the manic-depressive psychosis we find symptoms of stimulation of the sympathetic analogous to those produced in animals by fear and anger. These bodily changes depend

on the highly emotional character of this disease. Now, the emotions of a depressive character are phylogenetically spoken old and have been provided with the bodily reactions which are useful to the animal in attack, defence, or flight. The manic-depressive psychosis occurs without any apparent corporeal or psychical reason. The author suggests that phylogenesis would help us to find the deeper ground of this disease.

F. E. STOKES.

The Rôle of the Pituitary Gland in Epilepsy. (*Arch. of Neur. and Psychiat.*, vol. 2, no. 2, August, 1919.) *Tucker, B. R.*

The writer regards all convulsions accompanied by unconsciousness as symptoms of some underlying state or disease, and he believes that epilepsy is an organic condition due to definite pathologic cerebral tissue changes. Morbid conditions of the pituitary gland are found in a number of cases causing a change in its secretion. The investigation of 200 cases of epilepsy by roentgenographic examinations revealed some evidence of pituitary disturbance in 31.5 per cent. Some of these showed evidence of syphilis or other disorders and 14 per cent. were regarded as pure pituitary cases. From his observations the writer concludes that there is a definite relation between the undersecretion of the pituitary gland and a group of convulsive attacks usually termed epilepsy; that this group is divided into a chronic hypopituitary type and a transitional hypopituitary type by both clinical and roentgenographic evidence; and that pituitary gland feeding has a markedly beneficial effect, not infrequently leading to a cure.

H. DEVINE.

6. Sociology.

- (1) *The Criminal as a Patient.* (*The Dublin Journ. of Med. Sci.*, January, 1920.) *McQuade, C. E.*
- (2) *A Survey of 2,500 Prisoners in the Psychopathic Laboratory at the Indiana State Prison.* (*Journ. of Delinq.*, January, 1919.) *Bowers, Paul E.*
- (3) *Psychiatric Arms in the Field of Criminology.* (*Ment. Hyg.*, October, 1918.) *Glueck, Bernard.*

The first paper deals with the causes of crime, the anatomical abnormalities found in criminals, and the method of treatment best calculated to enable him to adjust himself normally to the outside world on his discharge. A criminal act is defined as an act which does not conform to the standard of conduct accepted by the age in which the criminal is living. The author divides criminals into the following classes: (1) The political criminal; (2) the criminal by passion whose crime may be the only one in his life; (3) the insane criminal, many of whom have been punished for their madness by being sent to prison; (4) the instinctive or born criminal; (5) the professional criminal who deliberately chooses his mode of life; (6) the occasional criminal.

The causes of crime are divided into the following three broad classes: "(1) All the influences of the external organic world, the most important of which are the influences of temperature and climate.

(2) The biological factor. Under this head is included all the attributes of the individual, anatomical, physiological and psychological. (3) The social factor, which is probably the most important of all."

Statistics show that the number of criminals is greater in hotter than in colder regions, tropical peoples showing an aversion to continued work and thus creating a desire to live by the work of others. Crimes of rape and murder are commonest in the hottest months, those due to poverty more common in winter. The study of criminal anthropology suggests that there is a greater proportion of abnormalities among criminals than among normal individuals. The author quotes freely from Lombroso in his account of the expression, the shape of the head, the jaw, ears, skin, hair, the intensity of sensation of pain, the special senses, the pathological anatomy of the brain, etc., of the criminal. The criminal, both mentally and physically, resembles the normal man of a lower race. Darwin, among others, suggested that criminality might be due to atavism. Lombroso early accepted this view, but later recognised that social conditions play an important part in the production of the criminal. A *résumé* of Dr. Albert Wilson's theory is given. He believes that degenerates (and a large number of criminals are degenerate) have brains which have not fully developed, because those cells of the outer cell layer which normally develop after birth are imperfectly formed, since the two things necessary—education and proper food—have not been present.

McQuade believes that a certain disposition to perform anti-social acts can be inherited, but this possible factor is difficult to separate from the influence of social surroundings. The parents of criminals are often found to suffer from tuberculosis, epilepsy, alcoholism and other conditions. The author considers that chronic alcoholism at the time of conception affects the brain and nervous system of the children. Alcoholism, however, may be a symptom as well as the cause of degeneration.

Crime should be looked upon as being something abnormal and investigated in the same manner as we investigate disease. The treatment of the criminal should aim at curing him if possible, or at improving his condition. The idea of punishment is founded on the assumption that the criminal is a normal person, whereas many criminals are decidedly subnormal. The prison system does not fit the criminal for a life amongst his fellow creatures and so he returns to prison again and again. When convicted the prisoner should be examined by an experienced medical criminologist and his treatment decided upon. The prison should be a moral hospital where the aim is to give the criminal a healthy body and a healthy mind. At Elmira—the State Reformatory of New York—where the treatment includes bathing, massage, gymnastics, school-work and an industrial education, hopeful results have been obtained, especially in children.

The purpose of the second paper is to give a review of the work attempted at the psychopathic laboratory at the Indiana State Prison, where mental examinations, both psychiatric and psychological, have been conducted for the past seven years. Each individual is given a complete biographical, physical and mental examination in the psychopathic laboratory. The examination proves that the prison population

is a heterogeneous mass of individuals, who demand different varieties of treatment, and not the single remedy of punishment and imprisonment so long meted out to criminals by society. As regards the physical side, many cases of acute and chronic gonorrhœa, chancroid and syphilis are received. These cases are quarantined in the venereal department, and when fit for discharge are again classified and sent to the divisions suitable for them. The chronically diseased and senile persons are sent directly to the convalescent section. The normal and slightly defective prisoners are sent to work in the shops, on the prison farms and elsewhere. The prison hospital has four divisions—medical, surgical, psychopathic and tuberculous. The insane individuals are transferred directly, after examination, to the hospital for the criminal insane. The author believes that there is a causal relationship between purely physical defects and crime, although these may exist purely as concomitant incidents. He states that the criminal act is the result of a triad of agencies, namely, social conventions, economic conditions, and the individual's own physio-psychical organisation. Prisoners as a class are more physically defective than the average citizen. In the author's 2,500 cases the physical condition was good in 1,435, fair in 664 and poor in 401. Some were received in advanced stages of tuberculosis, whilst many cases of this disease developed while in prison.

Cardiac lesions, arterio-sclerosis, nephritis, states of malnutrition, dental caries, pyorrhœa, phimosis, defective hearing, defective eyesight, adenoids and enlarged tonsils are common. Physical stigmata are present in a large percentage of cases. These are found in defective states of mind, which hinder the individual in adjusting himself to his environment, and this maladjustment frequently gives rise to criminal tendencies.

Tables of statistics are given dealing with the social life of criminals.

Employment: Employed, 1,394. Idle, 1,106. About 75 per cent. of the prison populations is composed of persons who have no skilled trade. The average wage income is to be classed at the lowest wage-earning scale. Thievery, dishonesty and beggary go hand in hand with a lowest wage earning-capacity. Prisoners on the whole are untrained in mechanics, and are unlettered, shiftless, improvident and irresponsible.

Associates: The influence of vicious associations can hardly be over-estimated as a factor contributory to crime. 310 of the cases claimed good associates, 1,250 mixed, and 940 bad.

Age: There are more criminals between the ages of 20 and 30 than of any other age. Old age, however, is not free from crime, especially of a sexual character. *Religion*: 90 per cent. of these prisoners professed belief in some organised religion. The average prisoner is a religious man, those religions which are especially rich in symbolism appealing to his nature. Some of these "devout" men are guilty of the most dastardly sexual crimes. We must use religion in dealing with prisoners, as it is a great element in ordering human conduct and serves better for the suppression of crime than any police system. *Tobacco*: Prisoners as a class are inveterate users of the weed, but probably not to any greater degree than unconvicted persons. *Hereditary taint*. As to whether criminal traits can be inherited is still an unsolved question.

The author's studies have shown, however, that criminality is indirectly inherited by reason of the fact that insanity, feeble-mindedness, epilepsy and other forms of psychopathy are inheritable conditions, and these states are patent in the production of crime. *Alcoholic liquors*: 2,075 of the cases drank to excess. It is not possible to say just how much crime is due to drinking. Alcoholism is often an expression of a defect, a contributory factor to the crime rather than the immediate one.

The author deals *seriatim* with epileptic insanity, paranoia, general paresis, cerebral syphilis, manic-depressive insanity, dementia præcox, senile psychoses, puerperal insanity, hysterical insanity, psychopathic personalities, constitutional inferiors and feeble-mindedness and their causal relationship with crime. The types of criminal acts most commonly found as expressions of the several psychoses are given.

In the third paper Glueck suggests that psychiatrists should undertake to furnish the fundamentals for a dependable science of criminology. The first aim should be to look beyond the immediate criminal act for the solution of the problem created by it to the human being back of the act. A psychiatric study of a criminal should supply at least the following information:

"(1) A definition from the psychiatric standpoint of the type of problem presented by each case. (2) A scientific analysis of the various causative factors operative in a given case. (3) An outline of the most promising plan of treatment for meeting at the same time the needs of social security and the individual prisoner's reclamation."

The most intimate understanding of the criminal lies in the analytic and interpretative approach. The seriousness of the criminal problem lies in the large amount of recidivism. The problem involves questions of human nature, of living forces which demand understanding before they can be properly directed. It may be a purely medical problem, or it might primarily be a sociological one, demanding attention to some crime-provocative social situation; it may be one purely for judicial administration, as in the case of the bank-wrecker. Glueck is not opposed to punishment *per se*, but it should only be used as a means to an end and not conceived to be the end in itself.

The subject of causation is still immersed in obscurity, and a note of warning is given against assuming a cause and effect relationship where only coincidences exist. The criminal act can only be viewed as a reaction on the part of a particularly constituted personality to a particular stimulus, internal or external. The results of treatment have shown that the traditional attitude of hopelessness is neither scientific nor correct. The mere fact of recidivism has been taken as a proof of irreformability: ample proof exists that such is not the case.

The authors of these papers emphasise the fact that in attempting the proper understanding of the criminal the approach should be along individualistic lines by a medical man trained in criminology, and that an effort should be made, not only to safeguard society, but to enable the criminal to effect a readjustment so that he may become a useful member of society.

C. W. FORSYTH.

7. Mental Hospital Reports for 1918.

Some English and Welsh County and Borough Mental Hospitals.

Bedford, Hertford and Huntingdon County.—It is not often that much literary merit characterises a visiting committee's report. The civil services have a jargon which is not so murderous to the King's English as that used in business circles or so pedantic as that which distinguishes army communications. The report under review is one of the exceptions, and though it opens with all due form and stateliness, comments like these are found :

"Like 1915, this has been a year of transition, in which the opportunities of peace are wanted to make up the arrears of war time. Every effort has been made to adapt the resources of the establishment to this state of things.

"The private patient scheme, which has so often flitted across the pages of these reports, only to pass into some promised land more shadowy than itself, is at last taking a tangible shape—a shape that could not be thought of while the asylum was very full of patients sent in from other asylums used for the wounded."

"The rate of maintenance has had to be raised to the high figure of 19s. 3d. It was absolutely necessary in the interests of every ratepayer, since they are compelled to take out-county patients who are sent from asylums closed by war at the same rate (subject to a trifling difference) as their own home county patients. To lose money on the latter is merely a matter of account, but upon the former the loss is permanent."

We are not so sure about the former of these conclusions. Could not a ratepayer refuse to subscribe to a rate covering expenditure for an expired period and not the one for which it is raised? Dr. Fuller's report is not wanting either in fluency of expression :

"It is also of some interest and perhaps of a little importance at the present time to call attention to the increase in the percentage of cases of mental disorder ultimately attributable to another cause, namely, syphilis—a fourfold increase in the course of four years. It is not, however, to be assumed that such occurrence necessarily indicates a general increase in the prevalence of syphilis throughout the community. It does, however, help to bring its existence within the field of vision and to emphasise the necessity of careful and prolonged treatment during the earlier stages of the disease, treatment persisted in not only until all outward manifestations of the disease have disappeared, but until the blood and body fluids are pronounced after expert examination to be free from contamination. Under treatment the abatement of physical suffering and the disappearance of outward signs of the disease often lead the patient to the conclusion that he is cured and induce him to discontinue treatment. Many years—even thirty years—later the disease may insidiously reassert itself in a new garb, or as a result of severe mental stress or mental or physical shock (of which there has been no lack during the war) precipitate the patient into that most pitiful of all conditions, general paralysis of the insane. In the meantime he has been apt to beget deformed and debilitated offspring, who themselves are not unlikely to develop into general paralytics with the onset of adolescence."

The following paragraph will be read with interest, though this is not the earliest or the only instance of the employment of female patient labour on the farms :

"During the summer a useful experiment was made in the employment of female patients in agricultural labour. Some thirty patients were employed in pulling linseed, a crop which had not previously been grown on this estate. The satisfactory yield of 24 bushels of linseed to the acre was obtained and is proving a valuable substitute for oil cake in the feeding of milch cows. I trust in the future it will be possible to bring an increased area of land under crops suitable for female labour."

No less than thirty-two pages and two tables are devoted to the accounts, which appear to be a fairly complete statement. There is a loss on the farm of £2,052 9s. 3d. The loss on maintenance account was increased from £1,265 15s. 10d. to £3,884 12s. 9d. During the year the balance-sheet provides £7,070 3s. 5d. to the credit of maintenance and the £4,859 os. 5d. due to the Treasurer.

Birmingham.—At the time this report was made, the 1st Birmingham War Hospital (Rubery) was being demobilised, while the Birmingham Special Military Surgical Hospital (Hollymoor) was to continue for a further period expiring not later than March 31st, 1920. A letter from the Army Council thanks the Committee and Staff for their patriotic action and devoted services. A well-deserved tribute is paid to the work of Lieut.-Col. A. C. Suffern, R.A.M.C., during his 34 years' service as Medical Superintendent, four of which have been spent as Administrator of the War Hospital, and whose early resignation is foreshadowed.

Dr. Roscrow, in his report for Winson Green, records a decrease in male admissions and an increase as regards females. Confusional insanity was diagnosed in 27·7 *per cent.* of the admissions as against 18·1 *per cent.* melancholia and 17 *per cent.* mania. This is interesting in view of the preponderance, with the exception of heredity, of alcohol as a cause, the high recovery rate of 33·34 *per cent.* on the direct admissions, and the fact that fully a third of the total deaths occurred in those recently admitted with advanced bodily diseases, notably phthisis. The death rate, 27·14 *per cent.* on the average number resident, though still high, was less than in 1917 when it rose to 31·28 *per cent.*

The building fund account has £12,500 invested in 5 *per cent.* War Bonds 1922, while the balance transferred to the fund from general maintenance transactions, covering £91,841 1s. 5d., was £1,972 13s. 10d. The assets in excess of liabilities was £19,350 14s. 5d., of which nearly £14,000 was represented by value of stock in hand, while the balance at credit to the building fund account was £15,301 os. 11d. The farm profits for the year amounted to £247 11s. 11d. The financial position is good and the accounts are presented in a singularly lucid manner, but the farm account is not published. The weekly cost of maintenance per patient is not stated, but in the Commissioners' report it is stated that the maintenance charge per week was 18.1.

Brighton Borough.—Although the death rate *per cent.* on the average daily number resident was considerably below the 20·3 *per cent.* for all the county and borough asylums, being only 16 *per cent.*, that for males, 26·5 *per cent.*, was above 25·2 *per cent.*, the average, while the female death rate was only 8·6 *per cent.*

Regarding this Dr. Planck reports :

"The death rate for male patients has been exceptionally high, chiefly on account of the large preponderance of old and debilitated patients amongst the recent male admissions, but overcrowding and lowered vitality as the result of malnutrition have contributed to this result."

The increased numbers, however, due partly to the need to provide

accommodation for patients from asylums vacated for war purposes, enabled the borough rates to be relieved during the year to the extent of £2,368 8s. 11d., the cost of ordinary repairs, insurance, and superannuation allowances. The total savings from this cause since 1911 has been £14,472 os. 7d. The farm and gardening account showed the healthy balance of £1,219 16s. 8d.

The death of the Rev. E. R. D. Litle, chaplain for 25 years, was deeply regretted by staff and patients alike.

Bucks County.—We congratulate the Committee and Medical Superintendent of this Asylum on its excellent war record. From the report of the Visiting Commissioner we gather that the male nursing staff numbers 7 charge attendants and 17 ordinary attendants, 24 in all. Out of those who were in the asylum service before August 1st, 1914, 17 joined the forces, or 70 *per cent.*, one of whom was killed in action. Of those who joined the asylum service since, no less than 19 left for military service, out of whom 7 were killed in action. Dr. Kerr must have had an anxious time with such a diluted male staff, and during the year under review had in addition to combat a severe epidemic of influenza which affected 200 of his patients and staff, in which he lost 22 of the former and 4 of the latter, including Dr. T. S. Logan, the Assistant Medical Officer. The death rate was the highest recorded in the whole history of the Institution, being 34·5 *per cent.* of the daily average number resident. The increase of tuberculosis was remarkable, accounting for 65 deaths as compared with 19 during 1917. It is interesting to note that there were only 3 cases of colitis, 2 of whom died. There were other worries inasmuch as 5 births occurred during the year. No doubt Dr. Kerr rejoiced when the war terminated.

It was on the initiative of the Chairman of the Committee, Thomas Field, Esq., that the Conference of Representatives of Visiting Committees was held at the Guildhall on October 29th, 1918.

After transferring £460 5s. 10d. to the building and repairs fund, the maintenance account showed a balance of £4,825 3s. 9d. as against £6,229 8s. 1d. at the commencement of the year. The value of stocks in hand was £3,226 7s. 5d. Thus the available cash balance is £1,598 16s. 4d., on transactions covering over £40,000. It is advisable to keep a good balance in hand in these days of soaring prices, for it may be doubted whether it is legal for a county authority to recover from the Poor Law authorities money to pay off liabilities it has not met by cash in reserve and the rate charged during the period incurred.

Canterbury Borough.—If this Institution can be taken as an example, the smaller mental hospitals scored during the war. The recovery rate was 36·36 *per cent.*, and the death rate only 10 *per cent.* The borough rates were relieved entirely of any charge in the building and repairs fund, total expenditure on this account being £718 1s. 3d., which was more than covered by £1,000 from excess weekly charge on out-county and private patients. The balance against the farm was £92 14s. 4d. The weekly maintenance rate per patient was 22s. 11¼d., 8s. of which is accounted for by provisions. Of necessity, smaller institutions are more costly owing to establishment charges being high in proportion to

patients, and the same can readily occur in very large institutions. From an economical point of view a happy medium is possible which unfortunately is rarely in accordance with the needs of the district.

Carmarthen, Cardigan and Pembroke Counties.—When compared with Birmingham (Winson Green) there is a remarkable difference in the form of mental disorder on admission. Out of the 133 cases admitted from these three Welsh counties to Carmarthen Asylum none suffered from confusional insanity, only 5 from general paralysis, and no less than 103 from the pure psychoses. The principal causes recorded are heredity, previous attacks and mental stress. Toxæmias and physical stress are not so potent as in the manufacturing districts.

The death rate, contrary to most mental hospitals, was considerably higher as regards females than males, being 19·74 *per cent.* for the latter, 28·81 *per cent.* for the former, and 24·8 *per cent.* combined. Reference to the death table shows considerably more deaths from senile decay and enteritis among the females than males. According to the same table in no case was the cause of death verified by *post-mortem* examination.

Out of the ninety-eight county, district and county-borough asylums only in four does the female death rate exceed the male—namely, Carmarthen, Cumberland, Lincoln (Kesteven), and Suffolk, and in one, Northumberland, they are practically equal. This is possibly accounted for to some extent by the degree of prevalence of general paralysis.

It is rather difficult to know why this mental hospital publishes its accounts in the form it does. No doubt there is some good reason, but in comparison with the simple statements found in most mental hospitals' reports, the Carmarthen statement is difficult to follow. The accounts comprise an abstract of the income and expenditure, a maintenance revenue balance sheet, the farm and garden account, the building and repairs fund accounts followed by a balance sheet. This is in addition to the usual financial statement, Parts I, II and III. Much of the detailed income is repeated in the maintenance revenue balance sheet. This gives under receipts from farm and garden account £805 3s. 2d., and the total, less the balance at the commencement of the year, agrees with the income given in the abstract of the income and expenditure. The balance in favour of the farm is £1,254 6s. 8d. in one farm and garden account, and £1,043 17s. 7d. in Part III financial statement. It is impossible to see how the sum transferred to maintenance revenue is arrived at. In Part I financial statement credit for supplies to the hospital from the farm does not appear, and the £144 10s. 7½d. balance in hand apparently cannot be reconciled with the maintenance revenue balance sheet. No doubt all this can be explained, but some rearrangement of the form in which the accounts are presented seems desirable if they are to be understood by other than skilled accountants. The statements made in the bulk of the mental hospital reports can be readily followed, and the financial position is made clear at a glance.

Croydon Borough.—Dr. Pasmore devotes nearly two pages of his report to a description of the medical work carried out by himself and his one

assistant. The sum of money saved by the absence of other colleagues is estimated, the number of ward visits, emergency visits, night calls, and special visits for new admissions are detailed. Other paragraphs deal with the number of patients re-certified, number of prescriptions written, pathological examinations undertaken, letters written regarding patients, letters read written by patients, interviews granted and statutory clerical books kept, etc., and consultations and affidavits are not omitted. Some time also must have been taken in compiling these figures, which form instructive reading. It is the first time we have ever seen a statistical summary of the work involved in the routine care and treatment of an average of 680 resident patients, and we are grateful, as no doubt his committee was, for the information afforded. It should be useful elsewhere in persuading those committees who tend to be sceptical regarding the onerous duties of the medical staff.

Dr. Pasmore has to be congratulated on a fine recovery rate which has averaged during the past ten years 40·89 *per cent.* in the case of females and 32·05 *per cent.* in the case of males. Regarding the year under review he states:

"Although the discharge rate was somewhat lower than in past years yet of those discharged recovered during the year not a single case relapsed, showing that the treatment received was having some permanent effect."

It seems rather early to prophesy.

The death rate during 1918 calculated in the average number resident was 30·48 *per cent.* males and 15·52 *per cent.* females—total of 20 *per cent.* This is the highest recorded for ten years, being almost double the average.

Regarding the year's finance Dr. Pasmore reports:

"I am very pleased to state that the maintenance rate per head per week for the past year has worked out at 18s. 8d. This is much below the cost in other Metropolitan Asylums. Great economy has been exercised and the numbers of private patients have also materially helped to reduce the rate. At some asylums the rate I hear has been as high as 24s. per head per week, and if we had worked at this level, with an average of 680 resident, we should have spent nearly £10,000 more."

In defence of these less fortunately managed institutions, a quotation from the auditors' report for the same year might be given, showing that Dr. Pasmore is approaching dangerously near the 24s. per head per week.

"The average number of patients for the quarter ending March 31st, 1919, was 690, and the average cost per head per week 21s. 10½d. For the corresponding quarter ended March 31st, 1918, the average number of patients was 691, and the average cost per head per week 17s. 8d."

The maintenance account showed a deficiency of £2,589 17s. 2d. there being an increase in all items of expenditure except the amusement of patients, upon which a saving of £38 was effected. There is a bank overdraft of £3,373 7s. 8d. The net loss on the farm was £521 1s. 0d., as compared with £241 12s. 4d., the loss during 1917. The profit on private patients credited to the building and repairs fund was £1,212 0s. 6d. The number of private patients resident was 111, of whom 14 were service patients. In this connection it is interesting to note that 17 patients were boarded at

Netherne at a rate of 21s. per week. The total income from private patients was £8,243.

Derby Borough.—The year 1918 completed the third decade in the history of this hospital. Dr. Rutherford Macphail, as in 1898 and 1908, summarises the statistics for the decade and compares them with the previous decades. It is both instructive and interesting, so we reproduce almost verbatim.

TOTAL GENERAL RESULTS DURING THE THREE PERIODS OF TEN YEARS.

| | Ten years ending | 1898. | 1908. | 1918. |
|--|------------------|-------|-------|-------|
| Admissions | | 988 | 1,096 | 1,081 |
| Recoveries | | 365 | 364 | 307 |
| Deaths | | 337 | 329 | 520 |
| Percentage of recoveries on admissions | | 36.9 | 33.2 | 28.4 |
| Percentage of deaths on numbers resident | | 11.9 | 10.0 | 11.2 |

SUMMARY OF ADMISSIONS.

In the last ten years 1,081 cases have been admitted; of those 125 were re-admissions so that the admissions represent only 956 individuals. The 125 re-admissions represent 85 persons; of these 68 relapsed after recovery, and 17 came back after discharge to the workhouse or to care of friends. This gives us the following ratios:

| | Ten years ending | 1898. | 1908. | 1919. |
|---|------------------|-------|-------|-------|
| Percentage of total re-admissions (cases) to total admissions | | 9.0 | 12.7 | 11.5 |
| Percentage of total re-admissions (persons) to total admissions | | 7.5 | 10.2 | 7.8 |
| Percentage of cases relapsed after previous recovery | | 6.0 | 7.0 | 6.2 |
| Percentage of unrecovered cases re-admitted | | 1.5 | 3.2 | 1.6 |

The interesting point brought out by these figures is that contrary to what might have been expected, *vis.*, that one would naturally look for a larger percentage of relapses after recovery in each succeeding decade, the ratios in the third are smaller than in the second decade, and are practically the same as the ratios in the first decade.

The percentage to the total admissions of six clinical varieties of mental disease in the three decades are as follows:

| | Ten years ending | Percentage to total admissions. | | |
|--------------------------------------|------------------|---------------------------------|-------|-------|
| | | 1898. | 1908. | 1918. |
| Recent mania | | 17.6 | 23.1 | 16.4 |
| Recent melancholia | | 13.2 | 16.5 | 16.7 |
| Senile insanity | | 9.8 | 5.3 | 5.3 |
| Congenital insanity | | 3.3 | 3.3 | 7.7 |
| Epileptic insanity | | 10.9 | 4.9 | 5.9 |
| General paralytic insanity | | 7.6 | 6.1 | 6.1 |

These account for rather more than three-fifths of the total admissions, the remainder being chiefly cases of chronic insanity. In contrasting the three periods the most noteworthy points are these: the ratio between the cases of mania and melancholia have altered in the third decade, so that they are practically the same instead of the maniacal cases preponderating as in the first two decades; there is a marked increase in cases of congenital insanity, and a decrease in cases of senility, epilepsy, and general paralysis.

SUMMARY OF DISCHARGES.

The total number of cases discharged has been 451, of which 307 have recovered, 43 were relieved, and 101 were discharged as not improved. The recovery rate on

the total number of admissions was 28·4 *per cent.*, or excluding the transfers from other hospitals, who were nearly all chronic cases, 38·3 *per cent.* The corresponding figures for the first 10 years' summary were 36·9 and 46·0, for the second 10 years' summary 33·2 and 36·3.

SUMMARY OF DEATHS.

The deaths numbered 520, or 11·2 *per cent.*, calculated on the average number resident each year. The proportion was considerably higher on the male than on the female side, and the total number of deaths exceeded the number of discharges for the decade, in marked contrast to the proportion in the two previous decades. Forty *per cent.* of the primary causes of death were due to cerebral and spinal diseases; also in a disease like general paralysis, which accounts for more than a third of the cerebral deaths, there were 60 cases among men, as compared with 19 female deaths. The percentages from the six most frequent causes of death are as follows:

| Ten years ending | 1898. | 1908. | 1918. |
|-------------------------------|-------|-------|-------|
| General paralysis | 22·18 | 23·70 | 15·19 |
| Epilepsy | 16·56 | 7·90 | 5·92 |
| Cerebral softening | 7·41 | 6·68 | 5·96 |
| Senile exhaustion | 11·53 | 10·03 | 11·34 |
| Phthisis pulmonalis | 9·76 | 4·86 | 11·92 |
| Heart disease | 5·90 | 11·85 | 9·03 |

Two of the causes of death, namely, cerebral softening and senile exhaustion, do not vary much when the three decades are compared. Deaths from general paralysis and epilepsy are less numerous, deaths from heart disease have increased, but to a less extent in the third than in the second decade, while deaths from pulmonary tuberculosis, reduced by one-half in the second decade, have again increased in the third decade.

Dr. Machpail deals also at length with the statistics of Derby patients only and also with the financial history of the Institution.

The total capital outlay, including everything, now stands at £76,095, of which £50,101 has been repaid, the balance of loan outstanding being £25,994. The Institution has justified its existence, not only by the value of the medical work done, but by saving the borough the expenditure of £76,713 with nothing to show for it. By the decision to have an asylum of their own, the Corporation will have to their credit for approximately the same expenditure when the loans are repaid a fully equipped and well-managed modern mental hospital, together with the cost of the care of their patients for 30 and more years.

This being Dr. Macphail's Thirtieth Annual Report we venture to offer our congratulations on a record of valuable services to the public and to the mentally afflicted which he can well be proud of.

Dorset.—Dr. Peachell states the case for the attachment of out-patient clinics and mental wards to general hospitals as follows:

"The general public need enlightening to realise that mental disorders are not something different and apart from ordinary diseases to be viewed as a stigma on the family, but are often associated with, or caused by, diseases, such as syphilis, influenza, tuberculosis, alcoholic poisoning and other toxic conditions, and that to promote rapid recovery skilled treatment in suitable environments should be started at the earliest possible moment.

"When this is realised and the Lunacy Acts amended—and there are good hopes of this in the near future—it will be possible to establish a system of out-patient clinics and mental wards attached to all general hospitals of any size to which patients may come without delay for advice and treatment in the early stages.

"The recovery-rate has been very high in the treatment without certification, in

special war hospitals with highly trained and adequate staff, of the large number of soldiers broken down mentally owing to the stress and the diseases incidental to war.

"In these hospitals the great aids to recovery are—

"(1) Early skilled treatment, including psycho-analysis.

"(2) Freedom from certification.

"(3) Much liberty, parole being freely granted.

"(4) Knowledge that their trouble was understood and that they could get the help of not only mental experts, but of the physician and surgeon for their physical diseases or supposed diseases.

"(5) Non-association with chronic cases.

"Surely civil patients should have similar opportunities for early skilled treatment, which in very many cases would avoid the necessity of legal certification and often life-long mental disablement to the great cost of the ratepayers. The present mental institutions would then only have to deal in the main with chronic cases and those in whom there was little chance of recovery."

Though this is admirably put, yet our optimism does not carry us quite so far. It is inconceivable that no recent cases will need certification or forcible detention in some form, and we see no likelihood of the creation of sufficient clinics throughout the country to deal with all freshly occurring cases of mental disease. It is more likely that there will be a greater co-ordination between general hospitals and the mental hospitals, with out-patient departments and mental wards reserved for non-certified cases in the former, the overflow passing on to the latter together with those needing certification. No doubt in the big centres special clinics for both out-patients and in-patients like the Maudesley hospital will be established, where, in addition to voluntary cases, certifiable cases not unduly prolonged will be treated. In many instances, owing to their situation, mental hospitals will need to have attached to them special clinics, failing a suitable general hospital being available for this purpose. The future of the present mental institutions is not so black as painted by Dr. Peachell, and when voluntary borders can be received there is no reason why all or most of the advantages of the special war hospitals should not be obtainable at the former. As regards the treatment of recent cases, many summers will pass before the new methods of dealing with curable cases will result in the mental hospitals becoming entirely chronic asylums, and then probably only in a few instances will it occur.

Regarding the occurrence of enteric fever, which affected 26 patients with four deaths and six of the staff with no fatal results, Dr. Peachell says:

"I still am convinced that the chief cause of cases are unknown carriers and direct infection cases from these. All cases occurring are now treated and afterwards kept in special wards."

Mr. Trevor in his report states that:

"Apart from the possibility of carriers in the different wards and direct contact cases, appearances seem to point to the possibility of infected vegetables from sewage percolation."

The committee have in hand a complete scheme for the disposal of sewage effluent and its treatment by septic tanks and filters. The private patients' fund has to its credit £2,112 1s. 4d., but the balance on the maintenance account is only £588 5s. 9d. No separate farm statement is given.

Essex County, Brentwood.—Dr. Turner's report of his administration for the year as usual is brief, but this is more than made up for by the clinico-pathological and pathological appendix, which, like its predecessors, contains a valuable statistical record of the morbid changes found *post-mortem* in the brain and other organs of those who had suffered from mental disorders. It embraces no less than 221 *post-mortem* examinations for the year, and there must be accumulating at Brentwood, the outcome of Dr. Turner's careful and painstaking investigations, records which, when they come to be summarised and collated with the clinical manifestations, will be a veritable gold mine of valuable information. It is hoped that some day this will be done so that this new source of information will be rendered available to students and the psychiatric world in general. An interesting case is recorded, the cerebro-spinal fluid and blood being investigated by Sir F. W. Mott, which in every way was a typical case of general paralysis, but turned out *post-mortem* to be one of meningeal syphilis, which under salvarsan treatment might have cleared up and been considered as a successful instance of the cure of general paralysis. This and similar instances raise the question as to whether all cases diagnosed as general paralysis should not be treated on the chance of in reality being cases of this kind and so obtaining relief. We gather from the report that there has been no recurrence of the extensive epidemic of enteric fever which prevailed during 1917. This is another mental hospital where prophylactic treatment by anti-typhoid inoculation has been carried out, which together with other precautions seems to have been effective in stamping out the disease.

The Commissioner reports that—

"Measures for dealing with soiled linen are now in full working. Such linen is at once placed in trolley tanks containing creoside, to which it is conveyed from the upper floors in zinc buckets containing the same disinfectant. The trolleys are wheeled direct into the foul wash-house, and the linen then received into a large collective tank of creoside—before being dealt with in the laundry. All the patients employed in laundry-work are systematically drilled for ablution of hands before meals and at the close of the day's work. I was present on the latter occasion yesterday, and satisfied myself that this prophylactic measure was properly and thoroughly carried out."

Dr. Turnbull at *Colchester* lays great stress on the importance of a trained nursing staff:

"Great credit is due to the medical officers for the number of lectures that have been given to the staff during the war, but it has been quite impossible to provide adequate instruction. There are few diseases so dependent for their amelioration on patient and intelligent nursing as insanity, and yet the standard of nursing in mental hospitals leaves much to be desired. It is essential for the welfare of the patients that promotions and salaries should depend, not on long service, but on knowledge and efficiency in all branches of the service."

It is to be hoped that the day is not far distant when mental hospital rules everywhere will make it impossible for probation nurses to hold responsible positions until fully trained. The difficulty at present is to obtain suitable candidates for training to meet the many vacancies the outcome of the recent war.

The financial statements of these two hospitals under the same county authority show this difference: whereas *Colchester*, though the hospital commenced with a balance on maintenance of £6,637 8s. 4d.

at the end of the year has £4,280 16s. 9d. to its credit, Brentwood, already in debt to the extent of £14,365 17s. 3d., increased its indebtedness to £18,499 12s. 9d.; but the building and repairs fund and the farm accounts of both institutions have handsome credit balances.

Exeter City.—Dr. Bartlett has had a trying year, and has shown highly commendable courage and endurance in meeting and overcoming many difficulties and worries. The armistice only just saved him from the upset and turmoil incidental to the asylum being converted into a war hospital, for which he is no doubt thankful. His report exemplifies the many-sided character of the duties which fall to the lot of a medical superintendent of a mental hospital accommodating under 400 cases. Regarding the increase in the number of deaths, although lower in 1918 than during the previous year, he says :

"At this institution the chief cause has undoubtedly been the reduction in quantity and quality of the food. In addition to this must be mentioned the age and physical standard of the patients admitted, the preponderance of an untrained temporary staff, a mild degree of overcrowding militating against the proper isolation and segregation of tubercular and infective cases in a hospital already handicapped in this respect, and the prevalence of an epidemic of enteric fever. There is no isolation hospital, and classification according to mental types, more difficult at all times in a small than in a large hospital, clashes with the proper segregation of infective cases and potential carriers of infective disease."

This formidable list of additional reasons would seem to crowd out the possible effect of the reduction in quantity and quality of the food. We are almost tempted to agree with the Medical Superintendent of Bexley that a good deal of nonsense is talked about the effect of war diet in this connection. It is presumed that had the patients been fortified by better diet to meet these adverse conditions, the increase in the death-rate would have been largely averted. Let us put it in another way. Was the diet in peace times so rich in essentials and abundant in quantity that the patient could afford to do without a preponderance of trained staff and endure a vastly increased risk of acquiring dangerous infective diseases without an alarming increase in the mortality rate? It is hardly a matter we care to dogmatise on, yet undoubtedly the view generally taken by medical superintendents supports Dr. Bartlett's contention.

The paragraph relating to the employment of patients is both instructive and interesting :

"The average daily number of patients employed has been 182, or 55 *per cent.* of the average number resident—330—which includes 80 private patients. Since the transfer of the Barnstaple and Tiverton patients it had been impossible to keep up the numbers employed on the farm, and latterly, owing to the increased leave granted to attendants, it has been difficult to spare regularly suitable attendants to take charge of farm parties. Supplying parties to outside farmers has been out of the question, but occasionally trusted men are allowed to assist them, the farmers fetching and bringing back the men."

Failing boarding out it seems possible that more could be done in this direction with advantage to both agriculture and the patients' health, and some such scheme came into force as regards convalescent patients in war hospitals. These precautions would need to be taken for the safety and proper care of the patient and the liability of the farmer in case of accidents.

Regarding the continued prevalence of enteric fever, we congratulate Dr. Bartlett on adopting the only sound method of combating the evil, pending the real origin of infection being ascertained :

"Having regard to the continuance of the epidemic and the excellent results obtained from preventive inoculation in the army it was decided to adopt this procedure, and all the patients physically suitable under sixty years of age were, therefore, inoculated in November and December."

The following extract from the Commissioner's report describes an occurrence which fortunately most English asylums have not experienced and trust to avoid for many a long day. Of all people to suffer from industrial disputes every right-thinking man would say that the sick and suffering, either in mind or body, should be the last.

"At the present time the administration of the asylum is carried on with great difficulty in consequence of a strike of the staff, male and female, which began on Wednesday, the 30th ult. The immediate occasion was the refusal of the Committee to reinstate a carpenter who had been dismissed for insubordination in December. Out of twenty-two male attendants twelve joined in the strike, and out of a like number of nurses, fifteen. In addition to these, thirteen male employees and two laundry maids went out; the males including three out of six on the farm, one out of four stokers, the kitchen staff, gardener, baker, two painters and carpenter. There has been little difficulty in filling the places temporarily or otherwise of the male staff, and there are to-day as many attendants on duty as just before the strike; but it has not been so easy on the female side, which is to-day nine short of its pre-strike strength. The strike left the female Infirmary and the Refractory Wards and the male Acute and Epileptic Ward bare of staff; there was danger of the milk supply being stopped, and the working of the laundry and kitchen was placed in jeopardy; but with the aid of volunteers and others the service in these departments has been carried on, and patients have been employed to assist in the staff duties of the wards. It may be observed that the older and more experienced nurses did not go out, and that the strikers included only two nurses who joined in 1916 and two in 1917, the rest having been appointed in 1918 or 1919. It is satisfactory to report that the Medical Superintendent has been able to meet the difficulties of the situation so successfully as appears to have been the case."

As the outcome of more humane methods the uniformed staff have been given a 63-hour week inclusive of meal times, and a commencing annual salary of £58 and £33 for male and female nurses respectively.

No medical tables are given, but everything material in this connection is detailed in the Medical Superintendent's report—an admirable and compact document which gives a bird's-eye view of the state of the institution, the work done, and the progress made during the year.

No balance-sheet is issued, but there is a healthy credit in favour of the farm and garden of £1,469 13s. 10d. The maintenance account commenced with an adverse balance of £8,750 16s. 9d., which increased to £10,175 1s. 9d. at the end of the year. For a mental hospital of this size the rate charged is low, being from 15s. 6d. to 21s. per week.

Glamorgan (County).—The outstanding feature of this report is the complete set of medico-psychological tables prepared by Dr. McGregor, the senior assistant medical officer. On careful examination of these statistics no material facts are revealed which would show that the war has had any effect either in the form of mental disorder or as regards its recoverability. This has held good throughout the war. Interesting information, however, can always be culled from these tables when

compiled with conscientious assiduity as in this case. Table A4 shows that the admissions for each year from 1864 to 1877 have been entirely accounted for except as regards two cases in 1865, one in 1871 and another in 1876. Thereafter the number of patients remaining for each year varies from one to under twenty until 1897, since when it gradually increases. During the year the sole remaining case admitted in 1870 died, as did one remaining from the admissions of 1878. Table B6 shows that the main admissions were soldiers and colliers as regards the men, and housewives and domestic servants in the case of the women. Tables B7 and 8 show that the main determining causes were mental stress, critical periods, alcohol, syphilis and epilepsy. Table B9 demonstrates that general paralysis occurred almost entirely between the ages of 35 and 44. Tables C2 and C6 are indicative that prognosis was good for two years from the date of onset in the majority of the cases recovering, provided that admission to special treatment was not delayed beyond six months. From Table C4 we gather that mental stress produced the mental disorders most readily recovered from. Table D3 records the existence of two imbeciles over eighty years of age, and Table E reveals the saddest news of all—that the prognosis of 1,489 cases out of 1,658 is unfavourable.

A severe epidemic of influenza affected 362 patients and 125 members of the staff with fatal results in 66 and 3 cases respectively. Otherwise the death-rate would not have been more than the average.

The maintenance account commenced with a credit balance of £3,012 *os. od.*, which was reduced to £67 8*s. od.* during the year. However, the statement of the financial condition of this account at the end of the year shows a balance in favour of the asylum of £5,078 5*s. 1d.* after outstanding accounts have been paid and unpaid amounts received. No balance-sheet proper is presented.

Hants County.—No district seems free from housing difficulties, and the Committee are endeavouring to provide cottages for male staff returning from the war who either gave up their houses on enlistment or have been married since. Six cottages are in contemplation at a cost of £3,000. In 1914 the cost would have been £1,400.

Dr. Abbott is not satisfied that the Board of Control's requirements as regards floor space for patients are sufficient:

"With respect to the figures given here, it should be borne in mind that they are based on the Board of Control's minimum requirements of 50 sq. ft. per bed in ordinary and 66 sq. ft. in infirmary wards. The Board have not altered these figures in the last sixty years, and in my opinion they are inadequate. The recognised minimum space in ordinary hospitals is 8-900 cubic feet. Owing to the faulty habits of a large proportion of asylum patients they require more space than sane patients."

In the Commissioners' revised "suggestions and instructions," 1911, 40 ft. superficial per patient for ordinary patients and 50 ft. for noisy and turbulent cases is recommended for day-room space, and as regards dormitory space 50 ft. superficial for each bed (single room 63) for clean and healthy patients and 67 superficial for each bed (single room 84) for hospital cases. The asylums taken over as war hospitals were supposed to be capable of accommodating one-third more of the general

hospital type of patients. It is to be remembered that a general hospital standard of air space (65 sq. ft. for light cases, 85 sq. ft. for ordinary cases and 144 sq. ft. for infectious cases) includes both day and night accommodation, and having regard to this the Commissioners' standards are liberal in comparison. However, whatever standard is adopted a 6-ft. wall space for each bed should be insisted upon for comfort, ease of nursing and prevention of infection.

Dr. Abbott has good reason to be anxious regarding overcrowding. The Commissioner reports :

"Dysentery has been endemic in the institution for very many years, but has increased in incidence very markedly since the outbreak of war. During the twelve years including and previous to 1914 the number averaged about 31 per annum; 1915, however, showed 135 cases, 1916, 122 cases, and 1917 as many as 195. Although there are signs of diminishing rate, the continued trouble is serious enough to warrant all Dr. Abbott's anxiety, and all the efforts he is making to to arrest its spread."

The accounts are very clearly presented. The balance in favour of farm and garden is £2,868 6s. 4d., and the cash balance on March 31st. 1919, is £3,499 17s. 11d. instead of there being an overdraft as during the previous year. The balance in favour of maintenance is £21,068 19s. 9d., of which £10,921 5s. 11d. represents value of stock in hand.

Kent County, Barming Heath.—Dr. Wolseley-Lewis pays a graceful tribute to his patients and staff in the following words :

"The declaration of an armistice on November 11th will, we hope, soon bring us permanent peace. For the last four years the conditions of life here have been extremely trying for both patients and staff, and in their different spheres they deserve commendation for the way in which they have adapted themselves to the ever-increasing strain.

"Throughout the year we have suffered from a shortage of nurses, and I am glad of this opportunity of placing on record the self-sacrificing devotion and untiring zeal in the care and treatment of their patients, exhibited by those who remained with us."

He does not appear to have had time to refer to his own arduous work, neither would his inclinations lead him to mention it. However, members of the Association are well acquainted with it.

We are glad that another cause for the recent increase in tuberculosis, other than war food and war conditions generally, has been found :

"The death-rate, 19.1 per cent. (males, 22 per cent.; females, 16.7 per cent.) is the highest ever recorded at this asylum. This is due in part to war conditions, as mentioned in last year's report, and in part to the very severe epidemic in November. This epidemic attacked 500 persons, and was not only directly responsible for 56 deaths, but as a sequel caused a remarkable increase of active pulmonary tuberculosis."

The usual financial statement, Parts I, II and III, is furnished, but no balance-sheet. The balance in favour of the farm is £1,036 5s. 8d., value of farm stock being £4,332 14s. 5d., and the balance to the credit of maintenance over £20,000. The weekly cost per head is 17s. 3d.

Kent County, Chartham Down.—The retirement of Dr. Fitzgerald after many years' service as medical superintendent is noted with an expression of regret in the report of the committee. Dr. Fitzgerald refers to it in the following words :

"During the twenty-seven years of my service here I have enjoyed the unfailing support of the committee and received much kindness and consideration at their hands, and it is with many regrets that I find myself at the end of my official relations with them; at the end also of my association with the officers and servants of the asylum, whose loyal and patient conduct through the war period was of great assistance to the administration. My best wishes are with my successor, Dr. Collins, and with the asylum for its welfare in the future under his superintendence."

For our part we wish both well. Thus it happens that the present medical superintendents of the two Kent County asylums have been recruited from the London County Council Service.

As regards mortality, no less than 45 *per cent.* of the deaths was due to tuberculosis, associated in one case with general paralysis. Influenza only accounted for two deaths and the epidemic was of a mild character. The financial position is similar to that at Barming Heath but the weekly maintenance rate is 19s.

London City.—The visiting committee is grateful to the City merchants:

"We have again to acknowledge the loyal manner in which we have been served by many of the contractors. The inevitable difficulties which have from time to time arisen in connection with securing adequate supplies have been successfully overcome."

There is no doubt but that in many instances the patients in asylums during the war would have fared badly had contractors not paid due regard to the claims of old customers notwithstanding the temptations of new and lucrative markets. It speaks well for the fair dealings of asylum authorities generally.

Dr. Steen as usual endeavours in his report to keep his committee fully informed as to the trend of lunacy affairs generally:

"It has been maintained in this report each year lately, that the war would cause a decrease in insanity, and these figures are ample confirmation of the views expressed. Various explanations have been given. One writer states that the absent cases are to be found in the military hospitals; but the board of control has been at some pains to discover the numbers of such, and in the report quoted it is stated that only between 2,000 and 3,000 "mental and nervous" cases were under observation in military hospitals. Furthermore, the decrease in the admissions has not been confined to the male sex. For example, in 1916 the total female admissions in England and Wales was 2.7 *per cent.* less than in 1915, and in 1917 2.1 *per cent.* less than those of 1916."

"Will the decrease in insanity be permanent? Without claiming the gift of prophecy the writer is fain to believe that the future is brighter in this respect to-day than for many years past. The influence of the Mental Deficiency Act involving the control of defectives and the prevention of the propagation of their kind, the control exercised over drink and venereal diseases and the better housing conditions promised will all have a beneficial effect. These are preventive measures."

We deal with this matter elsewhere, but not so optimistically. However, we do not complain of Dr. Steen's attitude, for surely it is the right way to tackle difficult problems.

We are all with him as regards the following paragraph:

"As regards treatment, when the disease is threatened or established, there are signs of a general awakening in the public mind respecting its responsibilities in the matter. The cases of so-called 'shell-shock' (which is really a form of mental disorder) are teaching many that the sufferers from mental ailments, in

place of being a subject of vulgar merriment or disgust, are worthy of all the sympathy and help possible. It is but a step further, and a short step at that, to actual insanity, and the harsh and obsolete lunacy laws which were made at the instance of the public will be repealed only by their action. People require educating, and it is hoped that the work of the Conference of Asylum Visiting Committees, which holds its meetings at the Guildhall, and the publications of the Medico-Psychological Association of Great Britain and Ireland will meet with the success they deserve."

This mental hospital was unfortunately situated as regards the occurrence of air raids, and Dr. Steen has no doubt but that the health of both patients and staff suffered as a consequence. He places on record a well-deserved expression of admiration and thanks to his staff for their fortitude on these occasions and also for the fine work they did generally during the war.

No farm account is published. In the receipts and payments account there is a cash balance in hand of £3,821 19s. 5d., while as regards income and expenditure there is an excess of income of £1,593 18s. 10d. The balance in favour of building and repairs fund is no less than £10,095 4s. 7d.

Monmouthshire.—Dr. Phillips has had plenty to do with only one medical officer to assist him in the care of an institution housing over 1,000 patients. Dysentery, enteric, and an epidemic of influenza increased his burden of work, and added to his cares and responsibilities. His committee have every reason to be grateful to him, and in their report make a handsome acknowledgment of his services and also those of the staff generally.

From the Commissioner's report we gather that between February, 1918, and March, 1919, there occurred 105 cases of dysentery, and since July 27 cases of enteric fever with fatal result in 7 cases. One nurse also was attacked and died. Enteric contacts have been inoculated with protective vaccine. The balance in favour of the farm and garden is £891 0s. 2d. Maintenance opened with an adverse balance of £2,815 17s. 0½d. excluding value of stock in hand, and closed with an adverse balance of £2,768 6s. 4½d. However, the balance due to the building account and the bank balance are very satisfactory.

Newport Borough.—An outbreak of enteric fever delayed and the armistice finally prevented the conversion of this mental hospital into a neurasthenia and shell-shock hospital.

In reporting the abnormally high death-rate Dr. Nelis says:

"In addition to other causes more directly arising from the war, the death-rate here has been affected by the occurrence during the year of a severe epidemic of asylum dysentery, from which disease previous to the war this asylum had been entirely free, and which was introduced by patients sent here from other asylums under the necessity of war conditions."

This is a regrettable occurrence, and likely to be a reminder of the war for many years to come.

There was also an outbreak of enteric fever, the origin being untraceable.

Deposits in supply pipes and radiators caused the heating system to fail, and for this reason it seems rather fortunate that the proposed

conversion into a war hospital failed to materialise. The Commissioner reports :

"Unfortunately in the early part of the year, after having been in an unsatisfactory condition for some months past, the heating system completely failed, and open fires had to be depended upon entirely for heating the wards. So far it has been impossible to reinstate the heating, but orders have now been given to the contractors, and it is hoped that all will be well again before next autumn."

In addition to the usual financial statement Parts I, II, and III there is given a combined payments and receipts and expenditure and income statement both as regards maintenance and building and repairs fund. This is a municipal way of presenting accounts and has much to commend it. These two statements and the balance-sheet convey a clear picture of the financial position, namely, that the surplus of assets over liabilities during 1918 has been reduced from £5,484 to £4,151 omitting the odd figures. Of the assets £3,418 is represented by value of stock in hand—the rest is cash.

Salop County (including Borough of Wenlock).—Dr. Stanley Hughes reports an unusual feature in the epidemic of influenza in November :

"*Health of the Asylum.*—Under this heading the outstanding feature of the year has been the influenza epidemic, which visited the asylum with great severity in November last, when a large proportion of the staff and male patients were attacked by a very severe type of the disease, with a heavy mortality rate among the patients and resulting in the death of two of the nurses. For some unknown reason there were but a few cases among the female patients, though close upon 50 per cent. of the female staff contracted the disease, etc."

The report of the Visiting Commissioner is not reproduced. The balance in favour of building and repairs fund account is £8,871 11s. 11d., of which £4,156 10s. 0d. has been lent to the maintenance account—an occurrence we have not noted before in any financial statement. The balance recorded in favour of maintenance was £10,740 17s. 4d. Cash assets and money due to maintenance was £6,547 3s. 7d. to meet cash payments of £2,831 4s. 2d. and £3,715 19s. 5d. towards repaying the sum borrowed from building and repairs account. The value of stock in hand was £11,203 7s. 9d., which covers £10,740 17s. 4d. balance on maintenance account and £462 10s. 5d. of the loan from building and repairs account. The financial position, therefore, would appear to be that maintenance would have to its credit, after paying its liabilities, stocks to the value of £10,740 7s. 4d. but no cash, and the building and repairs account a cash credit of £8,335 0s. 4d.

Portsmouth Borough.—Dr. Devine reports :

"*American occupation.*—The outstanding event of the year was the conversion of the institution into an American war hospital. The necessary adjustments, financial and otherwise, were based on a scheme similar to that under which other asylums had been handed over to the War Office during the course of the war. Owing to the fact, however, that an American unit was to take over the Hospital, it was impossible to utilise the medical, clerical and nursing staff for military purposes as had been done in other instances. The engineering, laundry, kitchen and needle-room staff were loaned to the American unit during their occupation, and those male and female nurses who volunteered were sent with the patients to the other institutions. Furthermore, as it was impossible to transfer the private

patients to other hospitals, the villas were retained for their accommodation, and it became necessary to set up an administrative department and nursing staff, distinct from that of the war hospital, to deal with the portion of the asylum remaining under the control of the Committee of Visitors. At the request of the U.S.A. authorities your Medical Superintendent was attached to their staff as Psychiatrist, to treat the mental cases and war neuroses, and to carry out the duties of a liaison officer. He was commissioned in the R.A.M.C., and served for a short period at the U.S.A. Base Hospital 117 in France.

"The officers and staff generally have fully co-operated with me in the administration of the institution. The American occupation naturally meant a certain degree of personal sacrifice on the part of the staff, and it was in a measure due to the fact that many were willing to submit to personal inconvenience that the scheme was successfully carried through."

The accounts reveal an excellent financial position.

West Riding, Yorkshire.—Dr. Shaw Bolton reports that 31.8 per cent. of the deaths were from tuberculosis.

"The incidence of tuberculosis has increased from 15.7 in 1916 to 26.2 in 1917, and to the high figure of 31.8 in 1918. The obvious explanation of this continued rise is that the morbidity which was produced by special causes during the year 1917 resulted, in the case of tuberculosis, in effects lasting beyond one year."

The increased prevalence of tuberculosis during the war mentioned in so many of the mental hospital reports is clearly indicative that in the tubercle bacillus there is an enemy only just kept at bay under the best of circumstances. Open-air treatment, free ventilation, segregation of suspected cases and careful attention to the dietary are the only sound prophylactic measures. There should be also facilities for X-ray examination of chests, in cases of stupor and others with visceral anæsthesia and loss of natural reflexes, to assist the early diagnosis of incipient phthisis. In a few mental hospitals the necessary apparatus is installed, and it is hoped that those mental hospitals which were converted to war hospitals will retain a complete installation, and others not so fortunate in this matter take steps to acquire one. A lead from the Board of Control would be helpful.

Those of us who have in mind the epidemics of dysentery which have occurred at Wakefield will read the following comment with satisfaction :

"Connected no doubt with the increased nutrition of the patients and with (for the first time for many years) the employment of artificial heating during the night throughout the institution during the winter months, a gratifying fall in the percentage incidence of dysentery to the relatively low figure of 7.7 has occurred."

Regarding the out-patient department Dr. Shaw Bolton reports :

"The work of the Out-Patient Department has again begun to increase, and the number of new cases, 65, is nearly up to the pre-war standard. One hundred and fifty-seven cases are at the present time under treatment."

In quite a humble way every mental hospital could do useful work in this direction. Even if objections are raised to seeing new cases as out-patients, nothing can be urged against keeping in touch with patients who have been discharged, helping, advising and encouraging them from time to time, and treating early symptoms indicative of the approach of a relapse. Such work would be of great educative value to young medical officers, and as regards prevention it would pay the country to refund the out-of-pocket expenses incurred by discharged patients on

these occasions. During the year payments on maintenance exceeded receipts by £25,566 1s. 2d., the deficit after deducting increased value of stock being £16,614 17s. 4d.; a further deduction of the surplus on March 31st, 1918, brings this down to £10,977 12s. 8d. The maintenance rate per week per patient is 18s. 7½d.

West Sussex County.—Col. H. A. Kidd reports the movements, etc., of the mental patients, all save ten, distributed throughout a number of receiving asylums and mental hospitals.

The demobilisation of the war hospital is related :

"The hospital continued to be used as a war hospital, but orders for demobilisation were received in March, and by the end of April all sick and wounded were evacuated, and the temporary medical and nursing staff demobilised with the exception of the quartermaster and a few R.A.M.C. *personnel*, who still remain to deal with the removal of medical stores, War Office clothing and equipment.

"Advantage is being taken to allow all the permanent nursing and household staff to go on leave for a complete change, and this hospital is now completely empty for the second time since its opening. The boilers have been shut down for cleaning and repairs, and renovations to the wards and offices have been actively carried out. Every effort is being made to re-open the hospital at the earliest possible moment, and if all goes well a commencement may be expected to take place in August.

"I am pleased to be able to report that the conduct of all permanent staff has been exemplary; they have one and all worked admirably and uncomplainingly in spite of novel, and in some cases unpleasantly altered conditions, and inequalities of pay and gratuities not made applicable to permanent staff of war hospitals."

The Committee report :

"The work has been completed in connection with the stained glass in the east window of the Chapel, in the place of plain glass, which had been generously given by the family of the late Dr. Arthur Knox Stuart, the late Senior Assistant Medical Officer of the Institution. The stained glass in the west window as a war memorial partly to those members of the staff who have died on active service and partly to those soldiers who died at Graylingwell, as a memorial of the Great War, has also been completed. The total cost of the latter window was £235 17s. 0d., all of which was raised by private subscription. Both windows were dedicated by the Bishop of Lewes at a service held on February 28th last.

"A sum of £560 has been collected by Mr. Weller Poley in response to the appeal for funds for the erection at the Chichester Cemetery of a memorial designed by Sir Reginald Blomfield, R.A., to soldiers who have died at Chichester from sickness contracted or wounds inflicted during the war, and orders have been given to carry out the work for £418 10s. 0d., the balance being required for suitably enclosing the site."

Wilts County.—The Committee report :

"The main incident of the year was the reception at very short notice of nearly 200 patients from the Portsmouth Borough Asylum in July, consequent on that asylum being taken over by the American military authorities. The difficulties and dangers attending such overcrowding are such that the Committee would not have accepted them had not the matter been represented to them as of the most urgent national importance. Several members of the Portsmouth asylum staff accompanied the patients, and while this was essential for the carrying of out the scheme, it has had disadvantages which could readily be foreseen."

There was a marked increase in the admissions in November and December, which Dr. Cole says was attributable partly to influenza and partly to the armistice. Influenza is given as a cause in 8·5 *per cent.* of the admissions.

Of those who recovered no less than 69·2 *per cent.* suffered from insanity for the first time of less than three months' duration on admission.

The balance in hand on the maintenance account increased from £6,997 2s. 1d. to £11,590 13s. 4d.—a very creditable record. The balance in favour of the farm and garden is £2,787 8s. 11d. and the average cost per head per week is 14s. 7d. The authorised accommodation is 982—a convenient size for economical administration.

Worcester County and City, Powick.—During the year Dr. Braine-Hartnell has had a strenuous time, but managed to keep things going in spite of exceptional adversity. The Commissioner reports :

"The female staff is much below the normal in number, and great difficulty is experienced in obtaining candidates for the posts. The clerk, the storekeeper, the stores clerk and the stores porter are also away on military duties, their places being taken by a girl clerk and a patient only, with the baker to act as porter. This has necessitated Dr. Braine-Hartnell spending a very considerable portion of his time in clerical duties, and has prevented him from undertaking practically any medical work, or ward supervision. He must have been through a most arduous and anxious time, but I hope that the near future will see the return of his old staff and the end of most of his difficulties."

Out of 373 deaths 174 succumbed to phthisis or 46 *per cent.* Dr. Braine-Hartnell states that :

"Phthisis is very prevalent, and was responsible for more than half the number of deaths. I attribute this to overcrowding in the early days of the war and to the reduction in the dietary. The seeds were then sown and we are now reaping the harvest. Since the dietary has been increased the health and weight of the patients have improved."

As Dr. Wolseley-Lewis says, a not unimportant part in the genesis of tuberculosis is played by influenza, which visited this mental hospital, with a fatal result on thirteen cases.

The Commissioner also has something to say in this matter :

"Phthisis I regret to say has been very prevalent throughout the Institution, and on my round I noted that fifteen male and fifteen females patients were being treated in bed for this disease. These cases were spread all over the building, as is shown by the fact that they were being treated in no less than seven wards on the female and five on the male side. It appears to me that this must tend towards the further spread of the disease, and I hope it may be possible in future to congregate them in one ward on each side, the females being placed in the ward in the annexe to which the large verandah is attached, and to keep them separated, to as great an extent as possible, from the other patients. I understand that owing to shortage of staff it is not possible to utilise the isolation hospital for this purpose at present."

This is more easily said than done and Dr. Braine-Hartnell cannot be unaware of the importance of segregating tubercular patients as far as possible.

These patients are not only tubercular but insane, and it not infrequently happens that their treatment in an infirmary is out of the question, and in some cases they would have to be strapped to the bed to treat them on verandahs. Judging from the number dying, the infirmaries of this hospital must already swarm with phthisical patients. There is only one way of dealing with such cases, and that is segregation in a specially designed ward or building quite separate from any other infirm.

or sick cases. Few mental hospitals have this really suitable accommodation. It should be additional accommodation so as to remove any temptation to use it for ordinary cases. Until the various local authorities take the necessary steps to provide it, anything like complete and effective isolation of phthisis will as a rule be quite impossible.

The balance in hand of £1,443 10s. 9d. on maintenance at the end of the year became a debt of £1,086 os. 9d. The farm made £2,194 13s. 5d. The balance-sheet of liabilities and assets shows a balance of £14,727 1s. 7d., in favour of maintenance, of which £1,237 11s. 10d. is value of stock in hand. The average weekly cost per head is 15s. 10½d.

Part IV.—Notes and News.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.

THE QUARTERLY MEETING of the Association was held at the House of the Royal Society of Medicine, London, on Thursday, May 20th, 1920, Dr. Bedford Pierce (President) in the chair.

Members present: Dr. Bedford Pierce (President), Major R. Worth (General Secretary), Sir J. Crichton-Browne, Sir David Ferrier, Sir George Savage, Sir R. Armstrong-Jones, Sir F. W. Mott, Drs. H. M. Baker, F. Beech, D. Bowers, A. Helen Boyle, J. Carswell, J. Chambers, R. H. Cole, A. W. Daniel, W. R. Dawson, H. Devine, J. F. Dixon, C. F. Fothergill, S. J. Gilfillan, T. C. Graves, T. A. Greene, H. E. Haynes, H. W. Hills, R. R. Leeper, J. R. Lord, J. Macarthur, E. Mapother, W. F. Menzies, D. Nicholson, M. J. Nolan, H. J. Norman, D. Ogilvy, R. W. Prentice, N. Raw, G. M. Robertson, D. Ross, J. Scott, J. N. Sergeant, B. H. Shaw, E. B. Sherlock, G. E. Shuttleworth, R. Percy Smith, F. G. Soutar, R. H. Steen, J. B. Spence, J. Stewart, R. C. Stewart, R. Stilwell, D. G. Thomson, C. M. Tuke, J. R. Whitwell, H. Wolseley-Lewis.

Members present at the Council Meeting, held at the Medical Society's Rooms, No. 11, Chandos St., W. 1: Dr. Bedford Pierce (President), Major R. Worth, (General Secretary), Lieut.-Colonels W. R. Dawson, J. R. Lord, D. G. Thomson, Drs. D. Bowers, Helen Boyle, J. Chambers, R. H. Cole, A. W. Daniel, R. R. Leeper, W. F. Menzies, A. Miller, M. J. Nolan, J. Noel Sergeant, G. E. Shuttleworth, R. H. Steen, H. Wolseley-Lewis.

The minutes of the last meeting, having already been published in the Journal, were taken as read and were duly confirmed.

The HON. SECRETARY (Major R. WORTH) announced that letters of regret for absence had been received from Cols. Keay, A. H. Kidd, and Drs. Douglas McRae, Patrick Steele, J. P. Westrup, John Mills, J. P. Park-Inglis, T. C. McKenzie, C. C. Easterbrook, T. S. Adair, R. Eager, and J. McClintock.

MATTERS ARISING FROM THE COUNCIL MEETING.

The PRESIDENT said the Registrar had reported greatly increased numbers of entrants for both the preliminary and final examinations for the proficiency certificate.

The PRESIDENT referred to the Asylum Workers' Benevolent Fund, which had been handed over to the Association, with the request that the Council would distribute it in accordance with the terms of the benefaction. Applications for assistance from it should be addressed to the General Secretary of this Association, who would then send to be filled up the necessary form. A notice in regard to this would appear in the next issue of the Journal.

The PRESIDENT announced that the Sub-committee on Post-Graduate Teaching

and the Diploma in Psychiatry had been formed, consisting of Colonel Lord, Dr. Chambers, Sir F. W. Mott, Dr. Orr, Colonel Rows, Dr. C. H. Bond and Dr. Percy Smith. Colonel Lord had kindly consented to act as convener of the first meeting of the Sub-committee.

The appointment of this sub-committee was then confirmed.

The PRESIDENT then said that the Association had suggested his name to the Minister of Health as a member of the General Nursing Council for England, and he had had the honour of being elected. Meetings had been held, but, as yet, no business affecting mental nurses specially had been transacted. That aspect was likely to come up shortly, however, and the Council and the Education Committee had given some consideration to the question. It was well known that the Act provided that existing nurses should be registered, on terms. Briefly stated, those terms were, that the person should be of the required age, should provide evidence satisfactory to the Council as to good character, should have adequate knowledge, and have had experience, and should have worked under conditions which were approved by the Council. He gathered that a large number of nurses whom the Association did not regard as well qualified would be placed on the Register, and they had expressly asked that those nurses who had received the Association's Certificate should have some distinctive mark against the entries of their names on the Register. It remained to be seen how far these efforts would be successful.

Regarding the Handbook Committee, it had had a number of long meetings, and the initial stages in the production of the revised volume had been dealt with. The work had been allotted to a number of people who had kindly offered to contribute articles, and it was hoped that the new Handbook would be a distinct improvement upon the old one. The general policy of the Handbook Committee had been to maintain the standard, and not to raise it unduly. It was hoped, however, that it would be cast in simpler language and would prove more useful to the nurses than the present one.

The following were elected Members of the Association :

BOWEN, TUDOR DAVID JOHN, M.R.C.S., L.R.C.P., Assistant Medical Officer, Napsbury Mental Hospital, Napsbury, St. Albans.

Proposed by Drs. L. Rolleston, H. J. Roberts and R. Worth.

O'NEILL, ARTHUR, M.R.C.S., L.R.C.P., Assistant Medical Officer, Napsbury Mental Hospital, Napsbury, St. Albans.

Proposed by Drs. L. Rolleston, H. J. Roberts and R. Worth.

WESTWATER, JOHN SINCLAIR, M.B., Ch.B.Edin., Assistant Medical Officer, Napsbury Mental Hospital, Napsbury, St. Albans.

Proposed by Drs. L. Rolleston, H. J. Roberts and R. Worth.

READ, WALTER WOLFE, M.R.C.S., L.R.C.P., M.D.Brux., Medical Superintendent, Berkshire County Asylum, Moulsoford.

Proposed by Drs. A. W. Neill, R. Worth and G. Warwick Smith.

RICKMAN, JOHN, M.A., M.B., B.Ch.Cantab., Assistant Medical Officer, Cambridgeshire Mental Hospital, County Mental Hospital, Cambridge.

Proposed by Drs. M. A. Archdale, R. Worth and G. Warwick Smith.

BRYCE, WILLIAM HENDERSON, M.B., C.M., Medical Superintendent, Kenlaw House, Colinsburgh, Fife.

Proposed by Drs. R. B. Campbell, G. M. Robertson and John Keay.

EARP, JOHN ROSSLYN, M.R.C.S., L.R.C.P., late Assistant Resident Medical Officer, City of London Hospital; 81, Woodstock Avenue, London, N.W. 4.

Proposed by Drs. Bedford Pierce, B. Hart and R. Worth.

KIMBER, WILLIAM JOSEPH TEIL, M.R.C.S.Eng., L.R.C.P.Lond., Senior Assistant Medical Officer, Herts County Mental Hospital, Hill End, St. Albans.

Proposed by Drs. A. N. Boycott, J. G. Smith and L. Rolleston.

THOMSON, WILLIAM GEORGE, M.A., M.B., Ch.B., D.P.H.Aberdeen, Temporary Assistant Medical Officer, County Mental Hospital, Cheddleton, Leek.

Proposed by Drs. W. F. Menzies, W. D. Wilkins and R. Worth.

BIRCH, W. S., M.R.C.S. Eng., L.R.C.P.Lond., Second Assistant Medical Officer, City of London Mental Hospital, Dartford; Stone House, Dartford, Kent.

Proposed by Drs. R. H. Steen, N. Navarra and R. Worth.

NIX, SIDNEY, M.D., Senior Assistant Medical Officer, Graylingwell Mental Hospital, Chichester.

Proposed by Drs. H. A. Kidd, R. H. Steen and G. E. Peachell.

FOX, J. TYLOR, M.A., M.D., B.Ch.Cantab., Medical Superintendent, Lingfield Epileptic Colony; The Homestead, Lingfield, Surrey.

Proposed by Drs. Bedford Pierce, H. J. Mackenzie and R. Worth.

HAMBLIN-SMITH, MAURICE, M.A.Cantab., M.D.Durham, Medical Officer, H.M. Prison, Birmingham.

Proposed by Drs. G. A. Auden, R. Worth and G. Warwick Smith.

HILLS, T. W. S., B.C.Cantab., L.S.A., Senior Assistant Medical Officer, Leavesden Mental Hospital, Kings Langley, Herts.

Proposed by Drs. F. A. Elkins, E. B. Sherlock and J. Farquharson Powell.

HOOPER, REGINALD ARTHUR, M.B., B.S.Durham, Assistant Medical Officer, Netherne Mental Hospital, Coulsdon, Surrey.

Proposed by Drs. P. C. Coombes, L. M. Webber and R. Worth.

CONNELL, O. G., M.C., L.R.C.P. & S.I., Senior Assistant Medical Officer, Mental Hospital, Thorpe, Norwich.

Proposed by Drs. D. G. Thomson, R. Worth and G. Warwick Smith.

MCALISTER, WILLIAM, M.A., M.B., Ch.B., Assistant Physician, Royal Edinburgh Asylum; West House, Morningside, Edinburgh.

Proposed by Drs. G. M. Robertson, E. M. Johnstone and Henry Yellowlees.

GORDON, GEORGE, M.B., Ch.B., Medical Officer, Lord Derby War Hospital; c/o Holt & Co., 3, Whitehall Place, London, S.W.

Proposed by Drs. J. Rodgers, R. Worth and G. Warwick Smith.

THOMAS, FREDERIC PERCIVAL SELWYN, M.B., Ch.B.Vict., Manchester; Chairman, Neurological Pensions Medical Board, Potteries Area; Ranelagh, Chesterton, Newcastle, Staffs.

Proposed by Drs. W. F. Menzies, W. D. Wilkins and R. Worth.

The meeting then partook more of a public character in order to hear Sir JAMES CRICHTON-BROWNE deliver the Maudsley Lecture (see p. 199).

SOUTH-EASTERN DIVISION.

THE SPRING MEETING of the South-Eastern Division was held by the courtesy of Drs. H. E. and H. G. L. Haynes at Littleton Hall, Brentwood, Essex, on Wednesday, May 5th, 1920.

Among those present were—Drs. Archdale, Bower, Edwards, H. E. Haynes, H. G. L. Haynes, Hughes, Hyslop, Norman, Oliver, and J. Noel Sergeant, Hon. Divisional Secretary.

Expressions of regret at inability to be present were received from Sir Marriott Cooke, and Drs. Anthony, Bartlett, Blandford, Bevan-Lewis, Boyle, Caldecott, Collins, Devine, Gilfillan, Heal, Higson, Johnston, Kidd, Downs, McRae, Murray, Nolan, Phillips, Price, Raynes, Rows, Shuttleworth, G. H. H. Smith, G. W. Smith, R. Percy Smith, Thomson, Turner, Walford, Whittington, Whitwell.

At 1.30 p.m. Dr. H. E. Haynes entertained the members to luncheon. At the close of lunch Dr. JAMES STEWART proposed a vote of thanks to Dr. H. E. Haynes for his kindness in so hospitably receiving the Division. Dr. HAYNES responded.

The various parts of the house and grounds were then visited and at 3.30 p.m. the meeting was held.

Dr. H. E. Haynes took the Chair.

The Minutes of the last Meeting were taken as read and confirmed.

Dr. Sergeant was elected Hon. Divisional Secretary and Drs. Bower, Brander, Craig and Steen Representative Members of the Council for the year 1920-21.

Drs. Gordon Johnston and Tuke were elected to fill vacancies on the Divisional Committee of Management.

The invitation to hold the Autumn Meeting at the Three Counties Asylum, Arlesey, Beds, was accepted with thanks, and the date of the meeting was fixed for Thursday, October 14th, 1920.

Dr. HYSLOP then read his paper on "Venous Stasis." Drs. H. E. HAYNES, EDWARDS, and NORMAN took part in the ensuing discussion.

A hearty vote of thanks to Dr. H. E. Haynes for his kindly hospitality was proposed by Dr. BOWER, seconded by Dr. EDWARDS, and carried by acclamation.

Mrs. Haynes then entertained the members to tea and so concluded a most enjoyable meeting.

Subsequently Drs. Bower, Edwards, H. E. Haynes, H. G. L. Haynes, Norman and Sergeant dined together at the Cafe Monico.

SOUTH-WESTERN DIVISION.

THE SPRING MEETING of the above Division was held, by the kind invitation of Dr. Devine, at the Corporation Mental Hospital, Portsmouth, on Friday, April 23rd, 1920.

The following members were present :—Drs. Devine, Erskine, Nelis, Prentice, Kidd, Stanford Read, Stokes, Williams, and Dr. Bartlett, Hon. Divisional Secretary.

Dr. Devine was voted to the Chair, and extended a cordial welcome to the visitors—Sir G. Archdall Reid, Drs. Fraser, Inman, Kerr, Waterfield.

There were letters of regret for non-attendance from Drs. Aveline, Mary Martin, MacBryan, McRae, Grigsby, Peachell, Soutar and Westrup.

Dr. Bartlett was appointed Hon. Divisional Secretary.

Drs. MacBryan and Soutar were elected as Representative Members of Council.

Drs. Devine and Stanford Read were elected as Members of the Committee of Management.

The date of the Autumn Meeting was fixed for October 29th, 1920, the place to be left in the hands of the Secretary; the date of the next Spring Meeting April 24th, 1921.

Dr. STANFORD READ, Physician to Fisherton House, then read his paper, entitled, "The Psychopathology of Alcoholism and some so-called Alcoholic Psychoses." Dr. Read ably led his hearers to re-consider alcoholism in its long-accepted relation to the psychoses, and the meeting strongly expressed their appreciation of his views and most interesting paper, which resulted in a productive discussion, in which Sir G. ARCHDALL REID, Drs. DEVINE, PRENTICE, WILLIAMS, ERSKINE, FRASER and INMAN participated.

A hearty vote of thanks was accorded to Dr. Devine for his kindness and hospitality.

NORTHERN AND MIDLAND DIVISION.

THE SPRING MEETING of the Northern and Midland Division was held at the kind invitation of Dr. Geddes at the Mental Hospital, Middlesbrough, on Thursday, April 29th, 1920.

The President, Dr. Bedford Pierce, in the chair.

The following fourteen members were present :

Drs. H. G. Drake-Brockman, A. J. Eades, J. W. Geddes, H. W. Kershaw, R. R. Kirwan, H. I. Mackenzie, H. D. MacPhail, G. F. May, Bedford Pierce, E. S. Simpson, R. C. Stewart, J. B. Tighe, R. C. Walker and T. S. Adair.

Several apologies were received for non-attendance.

The minutes of the last meeting were read and confirmed.

Dr. J. R. Gilmour was unanimously appointed secretary for the ensuing year—proposed by Dr. Geddes and seconded by Dr. Stewart.

Drs. R. R. Kirwan and T. S. Adair were elected Representative Members of Council—proposed by Dr. Pierce and seconded by Dr. Geddes.

The kind invitations of Dr. Hunter to hold the Autumn Meeting, 1920, at the Coppice, Nottingham, on October 21st, and of Dr. Tighe to hold the Spring Meeting, 1921, at the Gateshead Mental Hospital, Stannington, on April 21st, 1921, were heartily and cordially accepted on the proposal of Dr. PIERCE, seconded by Dr. MACKENZIE.

Dr. PIERCE made some reference to the resolution passed at the last meeting of the Division, and to the future arrangements regarding the Nursing Examination.

Dr. DRAKE-BROCKMAN then introduced the question of voluntary boarders in asylums. He thought that it was desirable that public asylums should be allowed

to take up work in this direction. After considerable discussion the following resolution was proposed by Dr. DRAKE-BROCKMAN, seconded by Dr. STEWART, and carried unanimously:

"That the members present at this Divisional Meeting desire to draw attention to the fact that it is not possible to receive patients into public mental hospitals upon a voluntary basis, and feel that this statutory bar to treatment should be removed without delay."

The Secretary was instructed to forward a copy of the resolution to the General Secretary at once, in order that it might, if possible, be in time for the May meeting. Various other questions were generally and informally talked about, such as the size of the Northern and Midland Division and the difficulty of getting many to attend the meetings, that of getting more members and encouraging scientific work amongst the newer and younger men in asylums, and the suggestion that men engaged more particularly in neurological work should be invited to join.

A very enjoyable meeting terminated with a hearty vote of thanks to Dr. Geddes and to the Committee of Visitors of the Hospital for their kindness and hospitality.

IRISH DIVISION.

THE SPRING MEETING of the Irish Division was held at the Royal College of Physicians, Kildare Street, Dublin, on April 1st, 1920.

Members present: Lieut.-Col. Dawson, in the chair; Dr. Gavin, Dr. Mills, Dr. H. R. C. Rutherford, Dr. Leeper (Hon. Sec.).

Letters and apologies for unavoidable absence were read from John M'Colles, K.C., Dr. Martin, Dr. Nolan.

The minutes of the previous meeting were read and signed, and also of the special meeting of the Division recently held to consider the Memorandum regarding Irish Lunacy Legislation.

A ballot for the election of an Hon. Secretary and two Representative Members of Council was next proceeded with. Dr. Gavin and Dr. Rutherford acted as scrutineers of the ballot.

The CHAIRMAN declared that Dr. Leeper was elected Hon. Secretary, and Dr. J. O'C. Donelan, Richmond Asylum, and Dr. Martin, Donegal District Asylum, Letterkenny, were elected Representative Members of Council for the Irish Division.

Dr. J. O'C. Donelan and Dr. H. R. C. Rutherford were nominated as Examiners for the Certificate of the Association for the coming year.

Dr. Geoffrey Norman Smyth, Assistant Medical Officer, St. Edmundsbury, Lucan, having been duly proposed, seconded and balloted for, was elected a member of the Association.

The following dates were fixed for the meetings of the Division for the ensuing year:

Summer Meeting, to be arranged for at either Belfast or Mullingar on Thursday, June 24th, 1920.

Autumn Meeting, Thursday, November 4th, at College of Physicians.

Spring Meeting, Thursday, April 7th, 1921.

Summer Meeting, Thursday, July 7th, 1921.

The meeting considered the position of asylum nurses under the Nurses' Registration Bill, and noted with regret that no representation in the First Irish General Nursing Council had been given to asylum officers or nurses, male or female. The Hon. Secretary was directed to draw up a statement to be forwarded to the Chief Secretary drawing attention to this serious omission.

The meeting next considered the possible effects on Irish Lunacy Legislation of the Home Rule Bill now before Parliament, and it was decided that no action on the part of the Irish Division was desirable at present.

This terminated the proceedings.

TREATMENT OF INCIPIENT MENTAL DISEASE.

DURING the last few years evidence has been accumulating that there is a strong movement of opinion, both within and without the profession, in favour of a modification of the lunacy law, the main object being to make better provision for the treatment of incipient or early cases of mental disorder.

The matter was under the consideration of the Medico-Psychological Association of Great Britain and Ireland before the war, and in 1914 a full report on the status of psychiatry was issued. The war prevented any steps being taken to translate the important resolutions then adopted into practice; but the war itself had the effect of arousing new interest in the whole subject of mental disorders, and produced a new attitude on the part of both the public and the medical profession. The Medico-Psychological Association therefore felt that the ferment of reconstruction in the air, particularly as regards questions of health, made it desirable that its position on this matter should be reviewed and a further report issued representing the most recent opinion as to how the objects in view could best be accomplished, so that the Association would be ready to direct and support any measures of reform that might be proposed. The matter was very carefully considered by a special committee, and its report eventually received the unanimous approval of a general meeting.

In its main features the report is in harmony with views set out from time to time in this Journal; nor do they differ in principle from the recommendations made by the Board of Control in its annual reports. In regard to clinics the Board of Control proposes permissive legislation enabling cases of mental disorder, incipient in character or of recent origin, to receive treatment in general or special hospitals, mental institutions, nursing homes, or elsewhere for limited periods—say six months—without the necessity for certification under the Lunacy Acts, provided the place is under the supervision of the Board. This is only an enabling proposal, but the word “elsewhere” gives it an exceedingly wide scope. The report of the Medico-Psychological Association advises that the duty of providing and maintaining clinics for these purposes should be imposed on local authorities; evidently some sort of obligation will be necessary if the reforms recommended are to be widely and generally adopted within a reasonable time. It is interesting to observe that the cases under consideration are described by the Board of Control as “incipient in character or of recent origin”; presumably these two phrases are not intended to cover identical cases, and if that presumption be correct it seems to follow that the cases need not be merely “of recent origin”—a phrase which it would be extremely difficult to define and when defined to apply in practice—but may be “incipient in character.” This would apparently cover many cases which run a long course of an ill-defined or undeveloped type and yet remain incipient in character. Such cases are difficult to deal with at present, and for that reason the extension of the principle would be valuable. If, however, this is the intention of the Board, it is difficult to see why the duration of this mode of treatment should be limited to, “say, six months.” The Medico-Psychological Association does not specify the period during which the measures proposed should be applicable, nor does it define what is meant by the term “early stages.” That would no doubt have to be dealt with when the matter came before Parliament, but the expressions used by the Board of Control seem to indicate a way of meeting the difficulty and allowing sufficient elasticity for practical needs.

PROPOSALS FOR REFORM.

It may be convenient to set out the main conclusions arrived at in the report of the Medico-Psychological Association:

- (1) That no steps be taken at present to obtain a complete revision of the Lunacy Acts, but to seek to obtain amendments only to those Acts.
- (2) That it be made the duty of local authorities, either themselves or by arrangement with voluntary organisations, to establish and maintain clinics for the treatment of nervous and mental diseases in their early stages, special provision being made in the organisation for children.
- (3) That these clinics should be housed in special buildings, or in an annexe to a general hospital, be staffed by a special staff trained for the work, and managed by a special committee appointed for the purpose, and that the buildings should be inspected and approved by a Central Government Department.

(4) That all institutions for the insane should be allowed and encouraged to admit patients as voluntary boarders under suitable conditions, one of which is the extension of the notice required to be given by the patient of his desire to leave the institution to forty-eight hours.

(5) That the Board of Control should have power to allow the reception of patients suffering from mental disease in its early stages without certification in approved homes, or as single patients in ordinary houses, in regard to which a medical practitioner gives a written recommendation stating that suitable treatment can there be obtained, the fact only of such reception to be intimated to the Board.

Several supplementary recommendations are made for improving the administration of the Act, mainly in the interests of the insane.

There can be little doubt that if anything is to be accomplished quickly it is far wiser in the present pressure upon the time of Parliament to concentrate on the most urgent amendments rather than to aim at a complete revision of the Lunacy and Mental Deficiency Acts. A single comprehensive unifying measure was drafted in 1913, but the Government decided to deal with the mental deficiency question in a separate measure which, owing to the war, has hardly yet come into full operation. The Board of Control, in its annual report for 1917, advocates amendments but not complete revision, nor does the latter process seem necessary in order to secure those reforms on which there appears to be substantial agreement.

It will be noted that the report of the Medico-Psychological Association proposes that it should be made the duty of local authorities to provide and maintain clinics. In this it goes further than the Board of Control, which suggests permissive legislation only, and the report of the committee to the conference of the visiting committees of the asylums in England and Wales, held in the Guildhall, London, in February, 1919. This conference considered that the establishment of special mental hospitals should be encouraged. There is much to be said in favour of imposing action by local authorities as a duty. For the success of the plan no half-hearted approach will be sufficient; it is necessary that it should be familiar and accessible to everyone if it is to establish itself without prejudice as a recognised method; for this we have the precedent of the duties imposed on local authorities by the Mental Deficiency Act, and no doubt provisions will have to be made in regard to financial assistance to local authorities by the Treasury similar to those made in that Act. Where such a clinic is established in a special annexe connected with a general hospital, it is contemplated that the local authority should come to some arrangement with the hospital board in regard to the cost, etc. There are precedents for such a course, and it is felt that if hospitals are to be induced to organise clinics on these lines, which both for educational, scientific, and practical reasons is so desirable, such financial assistance will be necessary.

In regard to these clinics it has been felt, not only by the Medico-Psychological Association but also by the Guildhall Committee, that they should as far as possible be detached in the public mind from all association with the Board of Control. It is apparently felt that that body is so closely identified with that aspect of the matter which has to do with restraint of the liberty of the patient, with safeguards against dangerous patients, and with the protection of the hopelessly confirmed insane, that the mere fact of the supervision of the proposed clinics being in its hands would tend to give them a character which would make them distasteful to those for whose benefit they are devised. Obviously they would properly come within the purview of the Ministry of Health, and as the Board of Control will, no doubt, before long be transferred to that Ministry there will be ample facility for proper co-ordination. It is for the same reason that stress is laid on the view that these clinics should be housed in special buildings, and be supervised by a committee distinct in name from the Asylums or Mental Deficient Committee. Only as regards private patients does it seem necessary to adhere for practical reasons to the body administering the Lunacy Acts, as the prohibition for the improper reception of patients is in their hands, and they must therefore be entrusted with the administration of any relaxation of that prohibition.

THE VOLUNTARY BOARDER SYSTEM.

In one important respect the Board of Control has gone further than the Medico-Psychological Association. It is prepared to have the principle of the voluntary boarder extended not only to all the various classes of institution, but also made

applicable to patients under single care in private houses. A proposal to this effect was put forward by Dr. Weatherley in his book *A Plea for the Insane*, which has been reviewed in these columns. Such a provision, coupled with the proposed provision for private patients in approved homes or as single cases in homes not so approved, would go far to cover all reasonable requirements for suitable treatment of the early nervous and mental disorders in this class of the community. Where detention is necessary recourse can be had to the private asylums, whether as a voluntary boarder or as a certified case. Where the asylum treatment is not necessary detention would be allowed, either under certificates or as a voluntary boarder, or as a single patient, and where neither of these arrangements are necessary or desired, the patient could be dealt with without any formality beyond the intimation to the Board that a patient was being received in a certain house and evidence that suitable treatment can there be obtained. It is proposed that the provisions applying to approved homes shall be applicable also to licensed houses and other institutions for the insane. It will be clear that with such wide and varied liberty of choice it is extremely unlikely that a medical man would recommend a patient to avail himself of any place of treatment which did not adopt one or other of these provisions, and there would be no necessary hardship to the patient in so doing, and consequently no reputable person proposing to receive patients in his house would attempt to evade such provisions. Thus would be eliminated one of the principal difficulties of members of the profession in regard to private patients—that it is not open to them to advise the treatment which they consider best for the health of their patient without the risk of running counter to the law.

The interest taken in the matter was shown a short time ago by the publication of a manifesto on psychiatric clinics for studying the treatment of mental disorders in the early stage, bearing the signatures of Sir Clifford Allbutt, Sir George Savage, Sir Frederick Mott, Dr. Edwin Goodall, Medical Superintendent of Cardiff Mental Hospital, and others more or less directly concerned with the treatment of such disorders. It was therein stated that the necessity of carrying out the reforms outlined had been repeatedly urged in the leading organs of the medical profession, and that the policy recommended would be generally endorsed. The main features of the policy indicated are the provision of clinics in large centres of population, but especially in connection with the general hospitals and schools of medicine. It is proposed to extend the system of voluntary admission which now exists in respect of licensed houses and registered hospitals for the insane, so that patients, whether of the private or rate-aided class, may place themselves in county borough mental hospitals. It is proposed, further, that the private patient class should be received without certification, but with the cognizance of the Board of Control, in homes privately owned or supported wholly or partly by voluntary contributions, or in existing public and private mental hospitals (licensed houses). The two methods of admission to county borough mental hospitals or into private hospitals are given as alternatives, but we presume that both are desired.

The establishment of clinics in psychiatry, with in- and out-patient departments as a part of the general hospital system, is regarded as the most important of the above proposals, since it is by this method that the never-ending extensions of existing asylums may best be avoided. In such clinics patients would be received without reception orders or certificates, and subject to the minimum of official supervision. They might be treated under these conditions for six months, and in them students and the future holders of posts in mental hospitals should be taught, all available means of research being provided. It was with this idea that the late Dr. Henry Maudsley eleven years ago made his munificent gift, ultimately amounting to £40,000, which, after much delay, resulted in the erection of the Maudsley Neurological Hospital at Denmark Hill.

CIVIL AND MILITARY CASES.

The manifesto calls attention to the arrangements the army authorities made for mentally disordered soldiers during the war; they were sent into military mental hospitals without any orders or certificates, and were only removed to asylums when, after nine months, they were deemed incurable. Large numbers of men were received in very early phases of the disease, and the advantages were very great. The suggestion is then made that "if these men could be treated thus

whilst in khaki, they could and should be similarly treated as civilians, and under far better medical conditions than in asylums." This may be so, but it should not be too readily assumed. Disciplinary powers over the man in khaki are great, and render the need for control by certification in his case superfluous. Whether civilian patients can be equally successfully managed will depend on the extent to which the public will be content to permit a reasonable amount of similar control being exercised in the patients' interest without regularised powers. There may be grounds for hoping that the experience of educational influences during the war may have rendered such an attitude on the part of the public general; but it cannot be denied that there is still an important section of it to whom a meticulous care for the liberty of the individual overshadows the provision for his well-being as a sick person.

There is, however, another difference between the civil and the military case. The soldier who is unfit to continue his duties owing to ill-health has no inducement to go on working, and comes automatically under medical direction. The civilian may continue his work when really unfit, or retire to his home and take no steps to secure treatment, or he may refuse to act on his doctor's advice. He and his friends must therefore be taught to turn naturally to the clinic for assistance, and he will judge of the clinic and accept or refuse its help according to the type of malady which will come in time to be associated with it in the course of actual experience.

LEGISLATIVE AIMS.

It is understood that the Board of Control has drafted a Bill to carry into effect the changes in this direction which it has recommended in its reports. Although officials speak hopefully of the probability of the early passage of the Bill into law, its terms have not yet been made known, and the prospects of early legislation do not seem to onlookers very bright.

The results which will be achieved must to a large extent depend on the detailed provisions and also on the spirit in which they are interpreted. For example, there are some whose principal object is to save those suffering from acute but transitory forms of mental disorder from certification by allowing them to be dealt with under the new provisions; there are others, on the other hand, who are more anxious to secure the treatment of cases in an early stage so as to stave off mental breakdown, and for this purpose they hope to bring under treatment the antecedent stages which are little regarded by many at present.

It is clear that unless there are very special and extensive facilities, the use of the clinics for the first group of cases would tend to conflict with their utility for the second. The clinics will come to be characterised not by the name that is given to them, but by the cases to the treatment of which they are devoted; care will have to be exercised if they are not to come to be looked upon as simply an unofficial type of asylum.—*British Medical Journal*, April 10th, 1920.

EARLY MENTAL TREATMENT AND THE RIGHTS OF THE SUBJECT.

SIR,—In the speech in which the Right Hon. Dr. Addison introduced the Health Ministry Bill, he made explicit reference to "the inadvisability of including under the Health Ministry many judicial questions which are not in any sense medical, such as those that concern the rights of the subject, etc." In face of this declaration from such a high authority, it would seem a little curious to notice in the sketch communicated to your issue of April 10th (p. 515) the remark "that the Lunacy Board of Control will no doubt before long be transferred to that Ministry." In a preceding sentence the function of that Board is stated as "having to do with restraint of the liberty of the patient, with safeguards, etc., and with the protection of the hopelessly confirmed insane."

If so transferred, the Board will doubtless have to leave behind it at the Home Office a large proportion of its duties, for its legal half, at any rate, is intimately concerned with the rights of the subject, and must consequently (in accord with the dictum of the Health Minister) be excluded from the purview of his department.

In a memorial presented in July, 1914, to the Local Government Board, and

supported by half the House of Commons, it was expressly urged that to promote the recovery of early uncertifiable mental cases it was both inexpedient and inappropriate that the recuperative hostels or sanatoriums designed for them should have any connection with the Lunacy Board. The Lunacy Act, 1890, confers on the Commissioners no jurisdiction over any but the certified—that is, the incarcerated—and the protection of the helpless (if properly attended to) will give abundant scope for their energies. It is a sacred trust, involving serious responsibility.

In the communication of April 10th it is noted that the Lunacy Board desires “permissive legislation enabling early mental cases to receive treatment for six months in general or special hospitals or homes without the necessity for certification.” I fail to see where any need for legislation to this end arises. General or special hospitals or borough hostels can, under the present law, receive and treat uncertifiable cases at any time, and for any length of time, where no detention is intended. That is the crux. A patient under the Lunacy Act, S. 74, can only be justifiably detained if he is proved to be “dangerous and unfit to be at large.” It is somewhat difficult, on p. 516, to disentangle the meaning of one or two sentences dealing with the “detention of patients as voluntary boarders”—apparently a contradiction in terms.

It is, no doubt, a very convenient arrangement for the proprietors of mental homes to have patients consigned to them for detention on the sole recommendation of one doctor (p. 515) without any judicial investigation or appeal. But the ordinary outlook of the public (as the said article sagely comments) has also to be reckoned with, displaying as it sometimes does “a meticulous care for the liberty of the individual.” As an instance, recall the defeat of the “Mental Treatment Bill,” proposed by the Lunacy Board in 1915.

In devising expedients to evade certification (on the plea of evading “stigma”) it is overlooked that the legal procedure of certification constitutes the main bulwark against false imprisonment, and it is highly dangerous to tamper with such safeguards. Better the risk of an evanescent stigma than the peril of a lifelong submersion in helpless misery. It is not the safeguarding procedure of certification that stigmatises, but the degrading element entailed in detention, coupled with unnecessary indignity, and the loss of all personal and civil rights.

The one hope of an effective check to the constant increase of insanity is the natural and reasonable provision of untainted homes (kept carefully apart from any link with lunacy) which shall afford hope, encouragement, and freedom from apprehension, with bodily care and attractive surroundings, appropriate to the restoration of those highest faculties often temporarily unhinged from quite natural and sufficient causes. Such is the path of common sense. It is a pity that legislation should be invoked to destroy the usefulness of these health-giving methods. Mental homes for uncertifiable cases, free from detention, should immediately be started by the Health Ministry under suitable local committees, on a purely hospital footing. Patients would be controlled during their stay by the rules of the place, but be free to leave on giving a specified notice.

Ex-service men cannot be said to be specially enamoured of the so much admired regimen of military mental hospitals. Cases of acute transient mania—for example, influenza, puerperal, etc.—ought to be treated in hospitals as delirious cases.

Money spent on half-way houses to asylums will be simply thrown away; whereas mental sanatoriums as above described would prove not only an immense boon to the community and a benefit to doctors, but by their adaptation to the needs of early cases would intercept them on the downward track, and tend eventually to a material reduction in our present huge and unproductive asylum expenditure.

I am, etc.,

S. E. WHITE, M.B., B.Sc.

London, W.,

April 17th.

British Medical Journal, May 15th, 1920.

CRIME AND MADNESS: MODERN VIEWS OF RESPONSIBILITY (1).

From a Legal Correspondent.

It was hoped that when the Court of Criminal Appeal was established some twelve years ago, the test of responsibility in criminal cases would be examined in the light of modern knowledge, and the outstanding difference between the legal and the medical view would come to an end, by a legal decision which would remove a blot from our criminal law and abolish a rule almost universally condemned by experts. That was possible without legislation. The tests formulated in Macnaghten's case were answers, which the judges were not bound to give and to which the House of Lords need not conform, to questions framed in hypothetical language. They were really only *obiter dicta*, though often repeated. That hope has not been realised; its fulfilment is now indefinitely postponed. In the judgment which *The Times* lately reported in the appeal in *Rex v. Holt*, the Court held itself bound by the answers of the judges in Macnaghten's case. "The tests in *R. v. Macnaghten* must be observed." Those tests, based on knowledge of the moral character of conduct, are condemned by almost all doctors. Those best qualified to speak are most decided in their objections to them; and the opposition is strengthened by experience. The late Dr. Maudsley declared the almost universal opinion of his profession when he described the legal rules on the subject of responsibility as "unphilosophical in theory and discredited on all hands by practical experience of insanity." It "goes out of its way gratuitously to lay down as sound law exploded psychological dogma which is not law at all, but false doctrine." "Had the Macnaghten *dictum* been rigidly insisted on," says another eminent medical authority, "it would have been the means of hanging more than half the women who are now in Broadmoor as criminal lunatics, for the murder of their children."

The formula may have embodied the medical knowledge of eighty years ago; it is in flat opposition to present teaching. The majority of lawyers are no less critical of these tests. Some judges evade them. Some put to the jury an alternative test; the judge who tried *Holt* asked the jury to say whether he was subject to an uncontrollable impulse. Sir James Stephen, in a careful examination of the questions, criticised them as unsatisfactory. Sir William Markby rejected them. One lawyer declared that the answers of the judges "really contain almost every form of fallacy or omission." Lord de Villiers, a great jurist, refused to follow the ruling of the judges in 1843, because "it practically treats the existence or otherwise of a specific disease of the mind as a question of law to be decided by the judges, instead of treating it as a question of fact to be decided by a jury." A committee of the New York Bar Association which examined the subject in 1911 condemned the English test; it was, they said, "formulated by judges ignorant of psychology."

The majority of foreign codes proceed upon different lines. Thus the German criminal code, appreciating the importance of the element of will, says that "an act is not punishable when the person at the time of doing it was in a state of unconsciousness or disease of mind by which a free determination of the will was excluded." The Italian code, like the German code, lays stress on infirmity of the will. "A person is not punishable for an act if at the time of committing it he was in such a state of mental weakness as to deprive him of knowledge of what he was doing or of freedom of will in regard to it."

No foreign state, in the many recent new codes of criminal law, has adopted our test; and even in the American Union, where the English Criminal Law is the common law, the tendency has been to break away from a rule obviously at variance with medical science.

We lay less stress on these *dicta* than on the teaching of psychology, which has made enormous advances since 1843. The judges who formulated the answers were little conversant with mental science, and even if they had studied it they would in all probability have received little assistance as to one part of it, and that the most relevant to the inquiry into accusability. The mechanism of the will, its defects and diseases, were then little investigated. It was left to Bain, Wundt, and many later investigators to examine its pathology and to describe in detail the infatuation, fascination, irresistible impulses, due in the first instance to the undue

or morbid persistency in the mind of certain ideas. "A certain object has by some means gained possession of us, we are unable to dismiss; where by persisting in the view, and excluding other things, it may at last find its way into execution." Such works as Ribot's *Les Maladies de la Volonté*, Maudsley's *Will in its Pathological Relations*, Bain's *Emotions and the Will*, not to speak of the special works of "alienists," enable one to view the problem in a manner not possible in 1843, and warn us not to express in terms of knowledge what is often a problem of will-power, or to ignore the many instances of enervation or annihilation of volition. Ram a crowbar between the spokes of the wheels of a motor and then say to the chaffeur, "Full speed ahead"; knock off the pinions of a wheel and then expect the corresponding wheel to revolve—these are no greater absurdities than to hold as responsible men who see the evil to which with a sort of demoniac force they are impelled; slaves of an overmastering idea, powerless to resist that which they know to be wrong. "O wretched man that I am," each one of them might say with the Apostle. "What I hate that I do . . . the good that I would I do not; but the evil that I would not, that I do." Pursued by invisible internal Furies more terrible than the dread Erinyes that tracked Orestes stained with his mother's blood, they merit pity rather than reprobation."

It will be said in defence of the present rule that the Home Secretary will see that no injustice is done; that is to say, he administers a more rational law than that expounded by the Courts—a plea which is really the strongest condemnation of the latter. It may be added, "Granted that the present tests are imperfect, what would you substitute?" A question, it must be admitted, hard to answer. But even if no perfect substitute can be suggested, it would be a real service to get rid of false tests. It may well be that with our present knowledge and with the infinite variety of symptoms and shades of insanity, no one perfect definition can be framed. It may be advisable to leave the matter very much at large. The many attempts to compress into one brief formula a universal test have not been very successful. It may be best to use very general language as does the French criminal code: "There can be no crime nor offence if the accused was in a state of madness at the time."

These observations would not be made if the writer had not seen his way to a practical suggestion. Two courses are open. Under the Court of Criminal Appeal Act an appeal lies to the House of Lords if the Attorney-General certifies that the case involves a point of law of exceptional public importance, and that it is desirable in the public interest that a further appeal should be brought. Or, alternative course, a committee of a few lawyers and doctors might investigate the subject. The objection to the latter course is that it would open a wide range of questions closely connected with that here discussed; for example, the question of limited criminal responsibility which now forces itself upon criminologists. A full discussion would involve a consideration of the tests of insanity in civil cases—for instance, as to capacity to contract or to make a will. Here, too, legal science is out of touch with medical. Indeed, there may have been retrogression. The principle enunciated by the Judicial Committee through Lord Brougham in *Waring v. Waring* probably better accords with the principle of the unity of psychic life than that subsequently laid down in *Banks v. Goodfellows*.

The advantage of the first course here suggested is that the discussion would be confined to the narrow manageable issue "Yes" or "No." Are the tests in *Macnaghten's* case sound? The Law Lords need not, indeed could not properly, travel outside this issue. There is an additional reason in favour of this course in the fact that they have lately had before them, in the appeal in *Rex v. Beard*, a closely related subject. The present Lord Chancellor has already in more than one field shown the courage and ability to grapple with difficult questions, and the probability is that a discussion in the House of Lords would clarify the subject and might efface from English law one point in which it is conspicuously behind most foreign systems of criminal law.

(¹) *The Times*, April 13th, 1920.

PARLIAMENTARY NEWS.

March 25th: Sanatoriums for uncertifiable mental cases.—Sir A. SHIRLEY BENN asked the Pensions Minister if he would state how many sanatoriums were provided by his department for the benefit of uncertifiable border-line cases of loss of mental balance occurring among ex-soldiers as distinguished from neurasthenics of a pseudo-paralytic type, where they were situated, what accommodation they furnished, and were facilities afforded for interesting occupations for the purpose of promoting an early return to the conditions of industrial life.—Sir J. CRAIG replied: Eighteen institutions, providing 2,046 beds, have been set up by the Ministry to deal with the cases described. They are situated at Edinburgh, Shotley Bridge, Leeds (2), Altrincham, Woolton, Stockport, Leicester, Maidenhead, Bath, Exeter, Orpington, Tooting, Denmark Hill, Roehampton, Chepstow, Craigend, and Leopardstown. Further institutions are in course of preparation. Occupational training has been provided at the majority of these homes, and at the remainder is being instituted as rapidly as possible. Accommodation in the treatment and training centres will also be available for the convalescent cases which still require treatment and training. There are, in addition, clinics at Lancaster Gate, Manchester and elsewhere where out-patient treatment is given for the milder type of neurasthenic, such as the pseudo-paralytic type.

March 31st: Ex-service men in public asylums.—Major ENTWISTLE asked the Minister of Health if he would state how many discharged soldiers and sailors were at present in public asylums; and if it was intended to provide any other accommodation for these men.—Major BAIRD: The number is about 4,000. As regards the second part of the question, so far as I am aware there is no intention to provide other accommodation for these men, and I am advised that there would be serious objections to treating these cases in special establishments. The matter is discussed in the report of the Board of Control for 1917. There is also the important point that under the present arrangements it is possible in many cases to transfer the patient to an asylum closer to his relatives, and a large number of applications for such transfers have been received.

Lieut.-Col. MALONE: Are not many of these cases not really very serious, and likely to return to complete sanity if they were put into more suitable accommodation?—Major BAIRD: I do not think that follows. I think they are receiving the best possible treatment likely to lead to their recovery.

April 15th: Cost of lunatic patients.—Mr. CHARLES EDWARDS asked the Minister of Health whether he was aware of the continued increase in the cost of lunatic patients chargeable to boards of guardians maintained at lunatic asylums and that the 4s. per head now paid was totally inadequate; and whether he would introduce legislation to amend the Local Government Act, 1888, so as to provide for boards of guardians receiving a much higher sum than the above.—Dr. ADDISON replied: I can only repeat that in view of the contemplated legislation for the reform of the Poor Law this point could not advisedly be dealt with at the present time.

April 27th: Homes for mental cases.—Major ENTWISTLE asked the Pensions Minister if he would say how many homes of recovery were under his control, how many mental cases had passed through, and how many were receiving treatment.—Mr. MACPHERSON replied: There are twenty such institutions under the control of the Ministry, and 2,383 men are at present under treatment. I am making inquiry with regard to the second part of the question, and will inform my honourable and gallant friend of the result.

Mental cases at Warrington and Whitchurch.—Major ENTWISTLE asked the Secretary for War and Air if he would state how many mental cases passed through Warrington and Whitchurch hospitals; how many mental cases had been reported to his department since August 4th, 1914; how many had recovered; how many died; and the disposition of the remainder.—Mr. CHURCHILL replied: The number of mental cases which passed through the two hospitals mentioned were: Warrington, 8,410 up to March 31st, 1920, the date of the latest report; Whitchurch, 1,862 up to January 2nd, 1920, the date on which the hospital was closed. The figures asked for in the remainder of the question will not be available until the medical history of the war is published, which will not be for some two or three years. The following details, however, are available with regard to the patients treated in the two hospitals referred to in the question: Warrington

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(from the date of opening to December 31st, 1919): Number of cases treated, 8,127; discharged to their homes recovered, 3,657; discharged to asylums, 1,026; transferred to other military mental hospitals or repatriated overseas, 2,433; died, 108; remaining in hospital, 903. Whitechurch (from date of opening to October 31st, 1919): Number of cases treated, 1,862; discharged to their homes recovered, 1,102; discharged to asylums, 446; died, 33; remaining in hospital, 281.

April 28th: Shell-shock.—Lord SOUTHBOROUGH moved that inquiry should be made either by a select committee of this House or by departmental committee into the expert knowledge derived by the Army medical authorities and the medical professions with the object of recording for use in time to come the experiences of the war, and advising whether, by military education or otherwise, some scientific method of dealing with such cases could not be devised. He remarked that when first the public became acquainted with some of the terrible effects of shell-shock they were advised that it was a war phenomenon; but whatever might have been the diagnosis at the beginning of the war, there was now a fairly general consensus of opinion in this country, in France and in America that shell-shock cases were examples of varying types of hysteria and traumatic neurosis, common and well known in civil life, well understood by medical practitioners, and frequently met with in railway and other accidents. Our Royal Army medical authorities, in common with the French, had fully realised the gravity of the disease, and appreciated that if one understood hysteria, one was well on the road to understand shell-shock. Hysteria was a very serious and dangerous malady, and not only did it present itself in various forms, but it was in a sense contagious. If shell-shock were hysteria, it should be amenable to the same therapeutic measures both for prevention and cure. There was plainly all excuse for surprise at the rapid development of the disease, as it was found that shell-shock or hysteria was not confined to the untrained soldier alone. It was common with seasoned soldiers marked out for bravery. What was the meaning of this? The nervous system broke down under the strain of wear and tear. He believed that the health of a large number of men who were now doing nothing might be greatly improved by an organisation designed to give them a little work. In quasi-mental cases he could imagine no more miserable fate than for a patient to remain in absolute idleness. Were these men to be kept in their homes permanently, and was it desirable that various classes of the disorder should be mingled together? A committee of inquiry should have the opportunity of advising upon, collating and recording the most improved methods of treatment resulting from the experience of the war. With regard to cases of dereliction of duty followed by court-martial, and in some instances by the penalty of death, the committee would do well to examine secretly the evidence given in these cases and consider whether any other course might have been taken with regard to some of these men. If an inquiry took place he hoped the War Office would keep back the names of the unfortunate men, even from the committee.

Lord HORNE was convinced that a great field of research would be opened up for any committee that might be established. There was only one point to which he thought it needful to refer, in order that an unfavourable impression that might otherwise arise might be to a certain extent removed. If in the early days of the war there might have been cases in which injustice was done by the infliction of the extreme penalty, he confidently asserted—and his knowledge of cases that came up for confirmation enabled him to speak with experience—that if there was a shadow of doubt, if there was any suspicion that the crime committed might have been caused by any form of hysteria the result of shell-shock, the sentence would not be confirmed until the accused had been under observation of the medical authorities for a time at some of the detention establishments, and given every opportunity of allowing those in authority to arrive at a decision as to whether the mental balance had been in any way affected or not. He was much struck by the suggestion that inquiry might lead to some form of mental exercise which would enable our soldiers to be trained to endure nerve-trying conditions. Personally, he thought it extremely probable that some method might be devised which would lead to that end. He believed that many of those whose mental balance was upset did not lose their self-control from the shell, but from the general effect of the extreme tension on a highly organised nervous system. (Cheers.) Those who were of a more easy-going temperament were less likely to suffer from shell-shock.

Viscount PEEL, Under Secretary for War, said this was a very important and painful question, described under the compendious but inaccurate term of shell-shock. No doubt there were cases of shell-shock in former wars, but they were not recognised as such because we had not got the information that we had at present. He was unable to say whether during the late war cases of injustice occurred, but immense trouble was taken at courts-martial and in the subsequent proceedings that no persons should be condemned to death unless for the gravest and most serious reasons, and unless all these different causes had been eliminated. Lord Horne, who spoke with authority and experience, had testified to the great trouble that had been taken in all stages of the procedure of the court-martial, and of confirmation to see that no man was condemned to death who was able justifiably to plead shell-shock or some mental damage of that kind. Where a soldier in his defence or in mitigation of punishment urged a substantial plea on mental grounds medical witnesses were called, and the court-martial was adjourned and a medical board was held. At the adjourned hearing one or more members of the board were called as witnesses to give evidence as to the effects observed and the conclusion of the board upon them. A mental specialist was always included if there was a suggestion of shell-shock or any other kind of mental or nervous disorder. If there were the slightest grounds for further inquiry, the Army or General Headquarters ordered a medical board to examine and to report before any action was taken to confirm the death sentence. No sentence of death was carried out in any theatre of war unless it was confirmed by the Commander-in-Chief of the Force, who invariably consulted the Judge Advocate-General. The view of the Government was that great advantages might be obtained by such an inquiry as was suggested. Many of the nervous and mental conditions encountered were entirely new to the medical officers. The connection between the forms of the disease met with during the war and in civil life was very close, and experience gained during the war might be of great value in other fields. The War Office were glad to accept the view that a departmental committee should be appointed.

June 28th : Ex-Service Men in Pauper Asylums.—Mr. HURD asked the Prime Minister whether his attention had been called to a resolution of the National Council of the Evangelical Free Churches regarding the incarceration of ex-Service men in pauper asylums; whether any ex-Service men were so incarcerated; and what steps would be taken to secure their treatment in a way commensurate with their service.—Major TRYON (Parliamentary Secretary to the Ministry of Pensions) replied: My right honourable friend's attention had not been called to the resolution referred to, but I may say that any ex-Service man suffering from certifiable insanity who is confined in a county or borough asylum is by special arrangement treated not as a pauper lunatic, but as a Service patient, if his condition is found to be due to his service in the late war. As a Service patient he is entitled to all the privileges of a private patient, the entire cost of his maintenance and treatment and of the special privileges accorded to him being borne by the Ministry of Pensions. I am satisfied that it would not be in the interests of the men themselves or of their relatives that they should be treated in special establishments devoted exclusively to ex-Service cases. I am, however, taking steps to assure myself that the present arrangements are in all cases working satisfactorily and are the best that can be made in the interests of these unfortunate men.

THE FIRST GENERAL NURSING COUNCIL, ENGLAND.

THE following persons have been appointed to form the first General Nursing Council under the Nurses' Registration Act of 1919:

Appointed by Privy Council.—Lady Hobhouse and Mr. J. C. Priestley, K.C.

Appointed by Board of Education.—The Hon. Mrs. Eustace Hills and Miss Batty Tuke, Bedford College.

Appointed by Minister of Health.—The Rev. G. B. Cronshaw, Radcliffe Infirmary, Oxford; Dr. E. W. Goodall, Dr. A. Bostock Hill, Dr. Bedford Pierce, and Sir T. Jenner Verrall, M.D.

Nurses Appointed by Minister of Health.—Miss A. Cattell, private practice; Mr. T. Christian, nurse, Banstead Lunatic Asylum; Miss A. Coulton, matron, Shadwell

Children's Hospital; Miss R. Cox-Davies, R.R.C., matron, Royal Free Hospital; Miss A. Dowbiggin, C.B.E., R.R.C., matron, Edmonton Poor Law Infirmary; Mrs. E. G. B. Fenwick, formerly matron, St. Bartholomew's Hospital; Miss A. Lloyd-Still, C.B.E., R.R.C., matron, St. Thomas's Hospital; Miss M. MacCullum, Professional Union of Trained Nurses; Miss I. Macdonald, Royal British Nursing Association; Miss A. M. Peterkin, general superintendent, Queen Victoria Jubilee Nurses; Miss E. Smith, Welsh superintendent, Queen Victoria's Jubilee Institute for Nurses; Miss M. E. Sparshott, C.B.E., R.R.C., matron, Royal Infirmary, Manchester; Miss E. C. Swiss, health visitor for Willesden; Miss S. E. Villiers, matron, Stockwell Fever Hospital; Miss C. Worsley, matron, Liverpool Children's Hospital; Miss C. S. Yapp, matron, Ashton-under-Lyne Poor Law Infirmary.

Mr. Priestley has been appointed Chairman of the Council.

NURSES REGISTRATION (SCOTLAND) ACT, 1919.

9 & 10 GEO. 5, CH. 95. 23rd December 1919.

(See page 190 for English Act.)

1.—(1) For the purposes of this Act, there shall be established a General Nursing Council for Scotland (in this Act referred to as "the Council"), which shall be a body corporate by that name with perpetual succession and a common seal with power to acquire, hold and dispose of land. The Council may sue and be sued by that name, and service on the Council of all legal processes and notices may be effected by service on their registrar.

(2) The Council shall be constituted in accordance with the provisions contained in the Schedule to this Act.

(3) Any document purporting to be sealed with the seal of the Council or to be signed in the name of the Council by their registrar or any person authorised by the Council to act in that behalf shall be receivable in evidence of the particulars stated in that document.

2.—(1) It shall be the duty of the Council to form and keep a register of nurses for the sick (in this Act referred to as "the register") subject to and in accordance with the provisions of this Act.

(2) The register shall consist of the following parts:—(a) a general part containing the names of all nurses who satisfy the conditions of admission to that part of the register; (b) a supplementary part containing the names of male nurses; (c) a supplementary part containing the names of nurses trained in the nursing and care of persons suffering from mental diseases; (d) a supplementary part containing the names of nurses trained in the nursing of sick children; (e) any other prescribed part.

Where any person satisfies the conditions of admission to any supplementary or prescribed part of the register, his name may be included in that part of the register notwithstanding that it is also included in the general part.

(3) A certificate under the seal of the Council stating that any person is, or was at any date, or is not, or was not at any date, duly registered under this Act shall be conclusive evidence in all courts of law of the fact stated in the certificate.

(4) Any reference in this Act to the register shall, unless the context otherwise requires, be deemed to include a reference to any part of the register, and the expression "registered" shall be construed accordingly.

3.—(1) The Council shall make rules for the following purposes:—(a) for regulating the formation, maintenance and publication of the register; (b) for regulating the issue of certificates and the conditions of admission to the register; (c) for regulating the conduct of any examinations which may be prescribed as a condition of admission to the register, and any matters ancillary to or connected with any such examinations; (d) for prescribing the causes for which, the conditions under which, and the manner in which nurses may be removed from the register, the cancellation of certificates of nurses removed from the register, the procedure for the restoration to the register of nurses who have been removed therefrom, and the fee to be payable on such restoration; (e) for regulating the summoning of meetings of the Council and the proceedings (including quorum) of the

Council; (f) for enabling the Council to constitute committees and for authorising the delegation to committees of any of the powers of the Council, and for regulating the proceedings (including quorum) of committees; and (g) generally for making provision with respect to any matters with respect to which the Council think that provision should be made for the purpose of carrying this Act into effect (including provision with respect to the uniform or badge which may be worn by nurses registered under this Act), and for prescribing anything which under this Act is to be prescribed.

(2) Rules under this section shall contain provisions—(a) requiring as a condition of the admission of any person to the register that such person shall have undergone the prescribed training, and shall possess the prescribed experience, in the nursing of the sick; and (b) requiring that the prescribed training shall be carried out either in an institution approved by the Council in that behalf or in the service of the Admiralty, the Army Council, or the Air Council; and (c) enabling persons who, within a period of two years after the date on which the rules to be made under the provisions of this paragraph first come into operation, make an application in that behalf (in this Act referred to as “an existing nurse’s application”), to be admitted to the register on producing evidence to the satisfaction of the Council that they are of good character, are of the prescribed age, and either (i) are persons holding certificates from the Local Government Board for Scotland or from the Scottish Board of Health (in this Act referred to as “the Board”) that they possess the qualifications required by the Department so certifying, or (ii) are persons who were for at least three years before the first day of November, nineteen hundred and nineteen, *bonâ fide* engaged in practice as nurses in attendance on the sick under conditions which appear to the Council to be satisfactory for the purposes of this provision and have adequate knowledge and experience of the nursing of the sick.

(3) Before making rules under this section with respect to the conditions of admission to the register, the Council shall, with a view to securing a uniform standard of qualification in all parts of the United Kingdom, consult with any Nursing Councils which may be established by Parliament for England and Wales or Ireland respectively.

(4) Rules made under this section shall not come into operation unless and until they are approved by the Board.

(5) At least thirty days before making any rules under this section, notice of the proposal to make the rules, and of the place where copies of the draft rules may be obtained, shall be published by the Council in the *Edinburgh Gazette*, and in such other manner as the Council think best adapted for ensuring publicity.

(6) Every rule made under this section shall be laid before each House of Parliament forthwith, and, if an Address is presented to His Majesty by either House of Parliament within the next subsequent twenty-one days on which that House has sat next after any such rule is laid before it praying that the rule may be annulled or modified, His Majesty in Council may annul or modify the rule, and, if annulled, it shall thenceforth be void, and, if modified, it shall thenceforth have effect as so modified, but without prejudice to the validity of anything previously done thereunder.

4.—(1) The Council may, with the previous sanction of the Board, appoint a person to act as registrar of the Council, and may, subject to the consent of the Board as to numbers, employ such other officers as the Council consider necessary. The registrar shall act as secretary and treasurer to the Council, and shall be charged, subject to the instructions of the Council, with the preparation, correction, and custody of the register.

(2) There shall be paid to the registrar and the other officers of the Council such salaries or remuneration as the Council with the approval of the Board may from time to time determine.

(3) Any expenses incurred by the Council in carrying this Act into effect, including expenses in connection with examinations under this Act and, subject as hereinafter provided, the travelling expenses of and sums paid on account of subsistence allowance to members of the Council, shall be defrayed out of the sums received by the Council by way of fees under this Act, or any other sums received by the Council:

Provided that the amount to be allowed to members of the Council in respect of

travelling expenses and subsistence allowance shall be calculated in accordance with directions to be given by the Board.

(4) The accounts of the Council shall be made up annually as at such date as the Board may fix, and shall be audited in such manner, and by such person, as the Board may from time to time direct, and copies of the accounts, and of any report made on the accounts, shall, within three months after the date as at which the accounts are made up, be transmitted by the Council to the Board and to such persons as the Board may direct.

5.—(1) There shall be paid to the Council in respect of every application to be examined or to be registered under this Act, and in respect of the retention in any year of the name of any person on the register, such fees respectively as the Council may, with the approval of the Board, from time to time determine:

Provided that—(a) in the case of an existing nurse's application the amount of the fee payable on the application shall be such sum, not exceeding one guinea, as the Council, with such approval as aforesaid, may determine; and (b) the amount of the fee payable in respect of the retention in any year of the name of any person on the register shall not exceed two shillings and sixpence.

(2) The Council may charge for any certificate or other document issued, or in respect of any services performed, by them, such fees as may be prescribed.

6.—(1) Any person who proves to the satisfaction of the Council that he has been registered either generally as a nurse for the sick or as a nurse of some special class in any part of His Majesty's dominions outside the United Kingdom, being a part of those dominions to which this section applies, shall be entitled, on making an application in the prescribed manner and paying such fee, not being greater than the fee payable on ordinary applications for registration under this Act, as the Council may demand, to be registered in a corresponding manner under this Act.

(2) This section applies to any part of His Majesty's dominions as respects which the Council are satisfied—(a) that there is in force therein an enactment, or a provision of any kind having the force of law, providing for the registration of nurses under some public authority; (b) that persons registered under this Act are admitted to the register established under the said enactment or provision on terms not less favourable than those contained in subsection (1) of this section; and (c) that the standard of training and examination required for admission to the register of nurses established under the said enactment or provision is not lower than the standard of training and examination required under this Act.

(3) In the event of provision being made for the establishment of a register of nurses in England and Wales or Ireland, the Council shall make rules under this Act enabling persons registered as nurses in England and Wales or Ireland, as the case may be, to obtain admission to the register of nurses established under this Act.

7.—(1) Any person aggrieved by the removal of his name from the register may, within three months after the date on which notice is given to him by the Council that his name has been so removed, appeal against the removal in manner provided by Act of Sederunt to the Court of Session, and on any such appeal the Court may give such directions in the matter as it thinks proper, including directions as to the costs of the appeal, and the order of the Court shall be final and conclusive and not subject to an appeal to any other court.

(2) Any person aggrieved by the refusal of the Council to approve any institution for the purpose of the rules under this Act relating to training may appeal against the refusal to the Board, and the Board, after considering the matter, shall give such directions therein as they think proper, and the Council shall comply with any directions so given.

8.—(1) Any person who—(a) not being a person duly registered under this Act, at any time after the expiration of three months from the date on which the Board gives public notice that a register of nurses has been compiled under this Act, takes or uses the name or title of registered nurse, either alone or in combination with any other words or letters, or any name, title, addition, description, uniform, or badge, implying that he is registered under this Act or is recognised by law as a registered nurse; or (b) being a person whose name is included in any part of the register, at any time after the expiration of the period aforesaid takes or uses any name, title, addition, description, uniform or badge, or

otherwise does any act of any kind, implying that his name is included in some other part of the register; or (c) at any time with intent to deceive makes use of any certificate of registration as a nurse issued under this Act to him or any other person, shall be liable on summary conviction to a penalty not exceeding, in the case of a first offence, ten pounds, and in the case of a second or any subsequent offence fifty pounds.

(2) If any person wilfully makes, or causes to be made, any falsification in any matter relating to the register, he shall be guilty of a crime and offence and shall, on conviction thereof, be liable to a fine not exceeding one hundred pounds.

9.—The Council shall present to the Board a report of their proceedings during each year within three months after the termination of each year, containing such particulars as the Board may direct.

10.—(1) This Act shall extend to Scotland only.

(2) This Act may be cited as the Nurses Registration (Scotland) Act, 1919.

SCHEDULE.

Constitution of Council.

1. The Council shall consist of fifteen members.

2. On its first constitution the Council shall be composed of the following persons, namely:

One person, who shall not be a registered medical practitioner, or a nurse, or a person concerned with the regular direction or provision of the services of nurses, appointed by the Privy Council:

One person appointed by the Scottish Education Department:

Four persons appointed by the Board, after consultation with persons and bodies having special knowledge and experience of training schools for nurses, of the work of matrons of hospitals, of general and special nursing services, and of general and special medical practice:

Nine persons, who are or have at some time been nurses actually engaged in rendering services in direct connection with the nursing of the sick, appointed by the Board after consultation with such associations or organised bodies of nurses or matrons as appear to the Board to represent persons who may become registered under this Act. The Board in making appointments under this provision shall have regard to the desirability of including in the Council persons having experience in the various forms of nursing.

3. The first members of the Council shall hold office for such term, not less than two years and not exceeding three years from the commencement of this Act, as the Board may determine.

4. After the expiration of the term of office of the first members of the Council, the Council shall be composed of six persons appointed respectively by the Privy Council, the Scottish Education Department, and the Board as aforesaid, and of nine persons, being persons registered as nurses under this Act, elected in the prescribed manner by the persons so registered at the date of election.

5. Any members of the Council other than the first members thereof shall hold office for a term of five years.

6. If the place of a member of the Council becomes vacant before the expiration of his term of office whether by death, resignation, or otherwise, the vacancy shall be filled, if the vacating member was an appointed member, by appointment by the body or persons by whom the member was appointed, or if the vacating member was an elected member in such manner as may be prescribed.

Any person appointed or elected to fill a casual vacancy shall hold office only so long as the member in whose stead he is appointed or elected would have held office.

7. Any member ceasing to be a member of the Council shall be eligible for re-appointment or re-election.

8. The powers of the Council may be exercised notwithstanding any vacancy in their number.

CONVALESCENT FUND FOR MENTAL NURSES.

(1) THE Medico-Psychological Association have accepted the balance of the Convalescent Fund of the late Asylum Workers' Association amounting to £79 17s. 1d. to be administered by a special committee on, as far as possible, the same lines as formerly.

(2) The object of the Fund is to assist mental nurses in obtaining necessary rest and change at health resorts during convalescence from illness.

(3) All mental nurses, male or female, actually engaged in the practice of their profession, whether in mental hospitals, institutions for mental defectives or in private nursing, are eligible for grants from the Fund—usually £3 for a fortnight's expenses.

(4) Applications for grants should be made personally in writing to the General Secretary, M.P.A. 11, Chandos Street, Cavendish Sq., W., or to Dr. J. F. Powell, Mental Hospital, Caterham, Surrey, enclosing a medical certificate (made out on the official form, copies of which can be obtained from the General Secretary, or from Dr. J. F. Powell) signed by the Medical Superintendent or other medical officer in charge, or in the case of private nurses of the insane or mental defectives, by the medical practitioner who has been in attendance.

(5) The Treasurer of the Association will be empowered to draw cheques on the Fund for the amount of grants which may be decided upon by the Committee, or by the member of the Committee appointed to receive applications for grants.

(6) Medical Superintendents are requested to make known to their staff the above details concerning the Fund, and the procedure necessary in obtaining grants therefrom.

(Signed)

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| G. E. SHUTTLEWORTH, | } M.P.A. Conva- lescent Fund Committee. |
| JAMES CHAMBERS, | |
| R. WORTH, | |
| J. FARQUHARSON POWELL, | |

May, 1920.

OBITUARY.

DR. WILSON EAGER,

Late Resident Physician and Superintendent of Suffolk County Asylum, Melton (now St. Audry's Hospital).

We regret to record the death of Wilson Eager, which took place at his residence in Woodbridge, Suffolk, on 11th May, 1920.

He was born on the 10th May, 1845, the son of Dr. Richard Eager, a surgeon in Guildford, Surrey. Wilson Eager and his elder brother, Reginald Eager, were both medical students at Guy's Hospital, and both eventually made their life-work the study of mental disease and the care of the insane. Dr. Wilson Eager, having obtained his L.S.A., L.R.C.P., and M.R.C.S. qualifications in 1871, was Clinical Assistant at Bethlem Hospital. From here he obtained a post as Assistant Medical Officer at the Prestwich Asylum, near Manchester. It was from this institution that he was appointed Resident Physician and Superintendent of the Suffolk County Asylum, Melton (now St. Audry's Hospital), a position from which he retired in 1897, after twenty-one years' service. During his period of office as Medical Superintendent he was responsible for a great many improvements in the lighting, heating and structural arrangements of this institution, which during the latter part of the eighteenth century had been the Woodbridge Workhouse.

Bare brick walls, which gave a prison-like appearance, were plastered and painted, and windows added wherever possible. Fireplaces, which were previously scantily provided, were enlarged and increased in number, and overmantels, made in the institution workshops, were erected over each.

Quite a feature of the place was the large bird-cages made on the premises containing some of the prettiest of the feathered tribe, which won the attention of many patients during the day.

When Dr. Eager resigned his office, each ward in the institution was self-contained—a contrast to the state of affairs when he was appointed Medical Superintendent there, at which time none had either storeroom or scullery, and goods were frequently stuffed away under the stairs. Besides being an administrator, Dr. Eager was of an inventive frame of mind. He introduced into the institution many ingenious contrivances for nursing, amongst which should be mentioned a means by which baths could be emptied and made ready for a second patient in one minute—an important detail when large numbers of patients have to be bathed in batches under nurses' supervision.

Dr. Eager also took a warm interest in the social life of the institution. He was of a musical disposition, and many old pensioners of that institution will recall the enthusiasm with which he used to superintend and take part in concerts and theatricals provided for the enjoyment of the patients. It was during his period of residence that a very fine dancing-room with stage was provided for this purpose, and through his personal efforts he secured an excellent organ for the chapel costing £300.

On his retirement he was the recipient of handsome presents from the staff of the institution, and nothing could better serve to emphasise Dr. Eager's popularity, kindness of heart and readiness to help all under him than the expressions of regret that he received on that occasion.

On leaving county asylum work, Dr. Eager joined his brother in partnership at Northwood Private Asylum, near Bristol, but, after ten years, he decided to retire and return to live in Woodbridge, Suffolk, where he had many friends.

He leaves a son, Dr. Richard Eager, O.B.E., who is Deputy Medical Superintendent of the Devon Mental Hospital, and a married daughter who has been living with him in Woodbridge for many years. His wife predeceased him by twelve years.

An obituary notice of Dr. J. Batty Tuke, of New Saughton Hall, Midlothian, who died on April 11th, will appear in the October number.

NOTICES OF MEETINGS.

ANNUAL MEETING.

THE Buxton Town Council have officially invited the Association to hold their Annual Meeting there this year.

Monday, July 26th.—Committee commence at 2.30 p.m. in Town Hall, Buxton. If Council business is finished by 5 p.m., General Meeting at 6 p.m., adjourn 7.30.

Tuesday, 27th.—Spent at Cheddleton. Char-a-banc leaves Palace Hotel, Buxton, 9.15 a.m. (Return fare 8s., or less according to numbers.) General Meeting 11 a.m.; Lunch 1.15 p.m., Presidential Address, 2.15 p.m., Garden Party 3.30 p.m. Visit to Silk Mill in Leek for Ladies 10.30 a.m.

Wednesday, 28th.—Scientific discussions, Town Hall, Buxton, 10 a.m. Half-day excursion for Ladies in the forenoon. The Buxton Town Council and High Peak Medical Society invite Members and Guests to a reception in Town Gardens 3.30–5.30 p.m. Annual Dinner at Palace Hotel, Buxton 8 p.m. (Ladies of Association included). Tickets 15s. without wine.

Thursday, 29th.—Full-day excursion to Haddon Hall and Chatsworth. If more papers are promised, so that a meeting on Thursday morning becomes desirable, half-day excursion will be arranged for Thursday afternoon, and the Haddon Hall excursion on Friday if Members will stay, in view of the fact that the following Monday is Bank Holiday.

HOTEL ARRANGEMENTS should be made at Buxton *at once*, as the end of July is the height of the local season and lodgings become unobtainable.

The following hotel accommodation at Buxton is recommended: Palace Hotel, Crescent Hotel, St. Ann's Hotel, Buxton Hydro, Haddon Hall Hydro, Oliver's Hydro, Sandringham Hotel, Milton House, Old Hall Hotel, Shakespeare Hotel, Pendennis, George Hotel, Pavilion.

DIVISIONAL MEETINGS.

South-Eastern Division.—October 14th, 1920, Three Counties Asylum, Arlesey, Beds.

South-Western Division.—October 29th, 1920; April 24th, 1921.

Northern and Midland Division.—October 21st, 1920, The Coppice, Nottingham; April 21st, 1921, Gateshead Mental Hospital, Stannington.

Irish Division.—November 4th, 1920, College of Physicians, Dublin; April 7th, 1921; July 7th, 1921.

APPOINTMENTS.

CULPIN, M., M.B., B.S.Lond., Lecturer on Psycho-neuroses, London Hospital Medical College.

EVANS, G., M.B.Lond., Medical Superintendent, Brentwood Mental Hospital, Brentwood, Essex.

SUTCLIFFE, J., M.R.C.S.Eng., L.R.C.P.Edin., Medical Superintendent, Cheadle Royal Hospital for Mental Diseases, Cheshire.

NOTICE TO CONTRIBUTORS.

N.B.—The Editors will be glad to receive contributions of interest, clinical records, etc., from members (whether these have been read at meetings or not) for publication in the Journal. They will also feel obliged if contributors will send in their papers at as early a date as possible in each quarter.

Writers are reminded that, according to LIX(a) of the Articles of Association, "all papers read at the Annual, General, or Divisional Meetings of the Association shall be the property of the Association, unless the author shall have previously obtained the written consent of the Editors to the contrary."

Papers read at Association Meetings should not, therefore, be published in other Journals without such sanction having been previously granted.

THE
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No. 275 [NEW SERIES No. 239.] OCTOBER, 1920. VOL. LXVI.

Part I.—Original Articles.

The Mechanism of Involutionary Melancholia. The Presidential Address at the Annual Meeting of the Medico-Psychological Association of Great Britain and Ireland, held at Buxton on July 26th–28th, 1920. By W. F. MENZIES, M.D., B.Sc.Edin., F.R.C.P.Lond., Medical Superintendent, Stafford County Mental Hospital, Cheddleton, near Leek.

At a time like the present, when the claims of psychogenic treatment are attracting the attention not only of the medical, but also of the lay mind, it befits those of us who believe that beneath every mental process there lies a mechanical basis to take careful thought whether we are altogether blameless if comparatively easily understood psychological explanations of disease are substituted for the far more intricate and complex physiological, and to ask ourselves whether we have in fact always applied to the problems of nervous physics the knowledge we actually possess. We turn to text-books of mental diseases seeking enlightenment, and are put off by vague explanations, no more convincing and far less logical than those advanced by the psychologist, nor do we find any reference to much work on the physical nature of mind which has long been known, although, indeed, twenty years ago Crookshank made an effort to correlate physical signs with mental conditions, and five years ago Dunlop Robertson drew attention to the importance of adrenalin in the production of depression. We do not know much about nerve action, but we do know something, and if we are not willing to apply to our own special work the simpler tests of the physiologist and the chemist we are in danger of seeing our teaching discredited; and therefore I have decided to address you to-day upon one class of mental illness which comprises two distinct processes, and to endeavour, by tracing the conditions present in both, to offer some explanations, not indeed of the ultimate, but

of the proximate causes which may underlie each in turn. The two processes are involution and depression, and my title is: "The Mechanism of Involutionary Melancholia." None of my facts are new, none have been worked out by any special labours of mine, but as there may be some who, like myself, banished in the depths of the country and many hours distant from a medical library, find a difficulty in marshalling current knowledge into its ordered place, I give these deductions for what they are worth; for the psychology of melancholia is the depressive emotion, and the anatomy of the depressive emotion is a sympatheticotonus, and the chemistry of a sympatheticotonus is an endogenous anoxæmia.

For the many clinical and laboratory observations required I am greatly indebted to my assistant medical officers, Drs. W. D. Wilkins and W. G. Thomson, to whom I tender grateful thanks.

ENTEROSTASIS.

In states of depression occurring at the involutionary period a most important factor is excessive putrefaction in the intestine, and it becomes necessary to consider the conditions under which this may occur, for although in old age constipation and dementia are common, yet only a few old people become depressed.

A good many years ago a former student of Sir William Arbuthnot Lane asked me if all the insane had intestinal stasis. Without going quite so far as this it is certain that the condition is very common, and probably in involutionary melancholia universal. The bands and fine adhesions are there, plainly to be seen at any *post-mortem* if looked for, and sometimes the dilatation and elongation of the intestine are remarkable. Generally, however, owing to the simple and regular dietary and the constant avoidance of constipation, together with the prolonged bed period before death, asylum cases show a jejunum and ileum shrunken in diameter or length, although the colon is often much enlarged, and the wall atrophic and even translucent. And on account of this care appendicitis is not common, although on one occasion we had three such operations here in a week.

Lane explains the formation of the kinking and bands on mechanical lines, due first to incorrect feeding and later to the assumption of the erect posture. Usually the earliest adhesions to form are round the cæcum and lower end of the ileum, and these often implicate the appendix, leading to operative interference. The process is defensive against the tendency of the loaded cæcum to drop into the true pelvis, and the bands may anchor the gut to the peritoneum. As the strain spreads upwards and to the left along the colon adhesions to the peritoneum tend to form in accordance with the position indicated by the parallelogram of forces, especially at the hepatic and splenic

flexures. Sometimes the middle of the transverse colon is supported, but generally this drops as a loop nearly or quite to the true pelvis, causing acute kinking at the hepatic and splenic flexures. The strain is still further propagated upwards through the gastrocolic omentum and so to the gastrohepatic omentum, interfering with the peristalsis of the stomach. Meanwhile the most important of all the results is occurring—constriction and obstruction of the terminal ileum—whose coils often lie normally in the pelvis. Thus the contents of the small intestine are gradually dammed back, leading to distension of the gut and stretching of the mesentery, until a jejuno-duodenal kink occurs and the free first and second parts of the duodenum dilate, the resultant adhesions interfering with the outflow of pancreatic juice and bile and constricting the pylorus. In the end there is general dilatation, kinking and stasis throughout the whole intestine, involving even the sigmoid. The bands connect loops of intestine to one another or to the anterior or posterior lining of the abdomen.

But one has never felt that Lane's explanation of these conditions in the first and even the second decade of life has been quite satisfactory. In young neurotic patients it is sometimes possible to make out an undue breadth of colon, dropping below the umbilicus, unequal dilatation of the stomach, with exaggerated flexion at the angular notch, doughiness in right or left flank, and tonic contraction of one or other rectus muscle; and this where no symptoms of stasis are present and where the bowels are moved daily. Lane holds that the adhesions are evolutionary, not inflammatory, while Keith believes that enterostasis is associated with the presence of nodal segments throughout the intestine. He shows that at each node there is a special development and modification of the cells of the myenteric plexus, and quotes Alvarez' researches as to the action of the nodal segments, movement in any one of which causes, as Bayliss and Starling demonstrated; inhibition in the next segment. He also recalls Jordan's radiographic evidence, and agrees with Hurst that where obstruction takes place there are no mechanical means to prevent it. He finds there are at least four rhythmical zones—duodenal (commencement of second part), jejuno-iliac, proximal colic and distal colic, and probably also an œsophageal and a gastric. Finally he puts forward his theory of enterostasis as being opposed to that of Lane. But may not both be right? Embryologists are far from agreed as to the representation in the modern intestine of the various portions of the primitive body cavity. May not the fourth and fifth branchial ridges have carried stomodœal elements down to the duodenum, or the anal infold have taken proctodœal elements back as far as the ileum? If so they would include in their sphincters ectodermal tissue, in their continuity endodermal, the former excited by the sympathetic and inhibited by the autonomic, the

latter excited by Auerbach's plexus and inhibited by the splanchnics. May not enterostasis be caused at first by a neurohormonic disturbance, and afterwards, when the muscular and nervous structures have been thrown out of gear, maintained by a mechanical? But whatever the original cause of the stasis nervous impulses cannot produce the bands; the irritant must be either mechanical or chemical.

We need not recite the various diseases ascribed by Lane to enterostasis, but the signs and symptoms we meet with constantly—asthenia, anorexia, nausea, headaches, loss of weight, defective circulation, dry and atrophic skin, constipation, bronzing, mammary fibrosis, adventitious hair, torpor, apathy or depression. Many occur in the various psychoses or in senility, and in all probability most visceral delusions are founded upon abdominal discomfort.

It is recognised that the products of food metabolism are unlikely to produce harmful effects. Peptones and proteoses are eminently toxic when injected intravenously, producing effects allied to anaphylactic shock, but these bodies never occur normally in the blood. Products of bacterial digestion are more important. It has long been known that putrescine and cadaverine are thus formed from the diaminoacids ornithine and lysine, and more recently that decarboxylation of aminoacids produces a whole series of poisonous aromatic bases, chiefly derivatives of the benzene and pyrrol rings. Ackermann, Mellanby, Twort and others have demonstrated the production of histamine from histidine, but Barger and Dale maintain that there must be a mechanism whereby this strongly depressor substance is prevented from entering the circulation. Herter, Vaughan Harley and others attribute the neurasthenia and melancholia of chronic constipation to the long-continued absorption of indol, skatol or phenol, while Woolley and Newburgh find that the only result of this is an increase of chromaffine tissue. Adami attributes far greater importance in producing chronic bacterial changes to subinfection, wherein bacteria in a particular state of attenuation may be absorbed and carried by the blood or lymph to distant parts, forming local capillary infarcts, and are there attacked by the phagocytes. Some are killed, and the discharged toxins kill the rest, so that no bacterial proliferation or general intoxication occurs, but the bacteriolysis also kills some of the more highly organised tissue-cells in the immediate vicinity, the reaction producing the usual growth of indifferent replacement tissue. By this means Rosenow has produced artificial rheumatoid and myositic lesions in rabbits, which, as Luff points out, are of the same nature as the irritative connective-tissue hyperplasias which occur in human chronic rheumatic affections. Opie has similarly produced hepatic cirrhosis, and Gaskell, Aschoff, Libman and Baehr have shown that certain forms of nephritis are produced by streptococcal emboli in the finer capillary loops of the glomeruli.

Stokvis, Gibson and others showed that the products of *Bacillus coli* invasion produced pigmentation, while the work of Farrant, and especially the careful observations of McCarrison, prove that another result is hyperthyroidism, followed later by atrophy, so that, as Horsley and Rolleston remark, in old age the thyroids degenerate and the adrenals get too big a pull.

Chetham-Strode and Benjafield attack the bacteria in the intestine. They allege that the coarse, non-sporing, Gram-positive bacteria of the Bulgar group especially produce lactic acid, but that the growth of these is inhibited by Gram-negative bacilli of the colon group, and by others such as *proteus*, or *Streptococcus faecalis*. Consequently, by feeding with coarse, undercooked carbohydrates, by non-antiseptic laxatives, by abdominal massage, and by autogenous vaccines they claim to be able to raise the ratio of the Bulgar group from 1 : 250 to 1 : 5, with relief of many of the symptoms of enterostasis. The effect of lactic acid brings us back to the work of Metchnikoff, and the fashion, some years back, of attempting by its exhibition to secure all the benefits of eternal life. The real value, however, is claimed to lie in its power of counteracting the toxins of the coli group, and so diminishing the ill-effects of enterostasis.

To understand the connection between bacterial absorption and melancholia it is essential to have an anatomical basis to work upon, and this is found in the involuntary nervous system. This system has been in fashion of late, and many books have been written blaming or praising it, as the case may be, for half the ills or benefits to which human flesh is heir. Yet it is impossible to over-estimate its importance.

THE INVOLUNTARY NERVOUS SYSTEM.

Much confusion has been created by the use of different names by various writers, not only for the whole system but for its two contrasted parts. Gaskell called the whole the "involuntary"; Langley, who has done more than anyone else to develop our knowledge of its functions, groups it all under the term "autonomic." In America chiefly the name "vegetative" has been applied to the whole, and the terms "parasympathetic" and "sympathetic" to the parts. Cannon does not fully distinguish in every case, often calling either the "sympathetic." None of the names are wholly satisfactory or entirely applicable, but as most of the system acts independently of the will I propose to adhere to the term "involuntary" for the whole system, to call the bulbosacral outflow the "autonomic," and the thoracolumbar the "sympathetic," as was somewhat tentatively adopted by its first great exponent, Gaskell, who, opposing in many fundamental points the views of His and his school, traced it from the original position in the early segmented

invertebrate. In the primitive animal we may imagine two nervous masses, one in front of the mouth-part concerned with orientation and the other behind it concerned with mastication. The mouth-part led into the body cavity, an epithelial tube or infundibulum, concerned with alimentation, circulation and respiration. This tube persists to-day as the central canal of the ventricles and spinal cord. The suprainfundibular mass, or snout-sense organ, at first olfactory in nature, later on became optic, then auditory. The infrainfundibular mass developed, as segments were added, prosomatic and mesosomatic parts, the former concerned with mastication, the latter with respiration. The original absence of differentiation of the special senses is illustrated by modern hydromedusæ, some of which possess an optic vesicle, others an auditory or touch-localisation pit, but both never appear in the same species (Shipley). An interesting state of deadlock may be observed in some highly developed invertebrates such as scorpions and spiders, where the fused mass of suprainfundibular, infrainfundibular and crural ganglia has come so to constrict the œsophagus that this has narrowed to a tube fit only for blood-sucking. Further cephalisation is impossible without starvation, the chance of developing a new ventral alimentary tract being gone for ever.

In the lowest vertebrates the notochord and infundibulum limit the forward development of the epichordal or infrainfundibular mass from which alone the segmental cranial nerves arise; these are joined, by primitive crura round the infundibulum, to the prechordal or suprainfundibular parts, subserving sight and smell. The early vertebrate, therefore, set out to acquire a new intestine untrammelled by cephalic constriction, and this in its origin is closely connected with the respiratory chamber, whose appendages were supplied with somatic segmental nerves. The heart was still close to the mouth, and developed from the original common body cavity, the cloaca was close to the respiratory chamber, and ultimately became connected with it by a short tube developed from the mid-vertebral groove, and carried with it during development a portion of the ectodermal contractile tissue. As the body cavity lengthened the cloaca moved hinderward, carrying with it its muscles and nerves. The latter still exist along the intestine as Auerbach's plexus, a part of the autonomic system, the former especially as sphincters of the gut, innervated from the sympathetic. The fore-gut formed several evaginations, *viz.*, lungs, liver and pancreas; the hind-gut, on the other hand, arose from the segmental duct, consisting of three chambers, coprodœum, urodœum and proctodœum. The original segmental duct, or pronephros, split into the Müllerian duct, conveying generative, and the Wolffian duct, conveying excretory products; these are the mesonephros. Later a metanephros, or kidney, was added, and bladder and cloaca became separated.

The origin of the intestine (as thus shortly summarised) is intimately connected with the lateral group of nuclei from which the segmental cranial nerves arise. In some invertebrata, such as the crayfish, these nerves supply each an appendage and nothing more, and contain motor and sensory fibres, constituting the branchial supply. But there is also another pair of nerves, also containing motor and sensory fibres, and supplying the voluntary muscles and skin. So that there comes to be in both prosomatic and mesosomatic parts nerves belonging to both somatic and branchial segmentation, and each possessing motor and sensory functions. As the vertebrate body lengthened out more segments were added posteriorly, but these, not being derived from the appendages, no longer took on a somatic and splanchnic representation, but their nerves take origin in the anterior and posterior cornua of the cord.

In the primitive animal the contractile tissue, undifferentiated neuromyotomes, lay round the body cavity very near the nerve chain. As the muscles developed or were pushed peripherally by growing cell-masses they took in many cases the nerves with them. Some of these ganglia moved a long way, such as the superior and inferior cervical, the solar plexus, superior and inferior mesenteric ganglia, cardiac, renal and Auerbach's plexus; some went only a short way, such as the posterior root ganglia and those of the lateral sympathetic chain. It need not here be discussed whether the original nerve-cord was segmented (Gaskell), or whether it was continuous and the ganglia formed by stretching in connection with a blood-vessel (Anderson); the important point is that the lateral chain ganglia are motor in function and originally lay within the cord, being differentiated out by devolution of function, and that the posterior root ganglia form their sensory complements.

The gangliated cord is connected to the spinal cord by grey and white rami communicantes: the grey are post-ganglionic fibres, the white are pre-ganglionic. A few of the grey rami pass into the cord, mainly by the posterior roots, and are distributed to the pia mater; their function is vasomotor, none enter the cord paths. The bulk of the grey rami pass peripherally with the spinal nerves, and are distributed segmentally with them. The white rami are sensory and motor. The former pass only to the posterior root ganglia, the latter, passing to the anterior roots, are found (*a*) in the spinal accessory root, whence they may be traced to the vagus, (*b*) in the thoracolumbar region, (*c*) in the second and third sacral roots, whence they may be traced to the pelvic plexus. They are interrupted in the lower cervical and lower lumbar regions by the fibres to the extremities. A small group (*d*) is found in the oculomotor nerve, supplying the sphincter iridis. They are fine medullated fibres everywhere, different

in appearance from the ordinary white fibres, and are the pre-ganglionic motor fibres of the involuntary nervous system. The three great out-flows from the central nervous system may be summarised thus:—

(1) The Oculo-bulbar.—To the ciliary, spheno-palatine, otic and submaxillary ganglia (prosomatic); to the vessels and mucous membranes of head, the heart (cardio-inhibitory), muscle of lungs, cesophagus, liver, gall-bladder, stomach and intestine down to end of transverse colon (motor), constituting the great vagus system (mesosomatic), through the cardiac, pulmonary and cesophageal plexuses.

(2) The Thoracico-lumbar.—To the superior and inferior cervical ganglia, the white rami of the gangliated chain, the renal, semilunar, superior and inferior mesenteric and spermatic (or ovarian) ganglia. From thence they proceed, mostly as non-medullated fibres:—

(a) To the blood-vessels everywhere, including heart (cardio-accelerator).

(b) To the involuntary skin musculature.

(c) To the kidney, ureter, bladder sphincter, urethra, uterus and Fallopian tubes, being the parts arising from the segmental duct.

(d) To the stomach and large and small intestine as inhibitors; to the liver, spleen, pancreas, adrenals; to the intestinal region, anus and vagina as motor to sphincters.

(3) The Sacral.—To the pelvic plexus, as motor to the muscles of intestine, from descending colon to anus, wall of bladder and external genital organs.

The first and the third constitute the autonomic system, the second the sympathetic. The autonomic is more local in its supply, the sympathetic covers practically all the ground of the autonomic, although it is occasionally local (body walls, limbs, kidney and internal generative organs). Where this double nerve-supply exists the two systems do not necessarily act in opposition, although they generally do. Thus in the external genitals all sympathetic nerves cause contraction, all autonomic cause relaxation. Much discussion has arisen as to whether there are afferent fibres in the two systems. Sensation in them is certainly of the protopathic type and the threshold for pain is high, while most afferent impulses are unconscious, or at least only affect consciousness under special conditions, and then indirectly, such as the vascular effects of emotion. Bayliss first definitely proved that dilatation of skin capillaries was an afferent impulse and passed in by the posterior roots. The afferent autonomic fibres overlap the afferent sympathetic in thoracic viscera, stomach, intestine, liver and pancreas. Most painful stimuli pass by the sympathetic; few afferent autonomic fibres are distributed by the vagus below the diaphragm. Considerable differences of opinion still exist as regards a good many of the activities of the autonomic and sympathetic divisions, contradictory results having been given by experiments. It would appear that much of the physiological disagreement can be explained on the ground of autonomic and sympathetic

storms and subsequent exhaustion, whereby it may be that under different conditions of stimulus discordant results appear. Certainly in man we have no reason to believe that differences of anatomical distribution alone will fully explain in every case the widely differing combinations of symptoms which we meet with clinically.

THE PHYSIOLOGY OF THE EMOTIONS.

Among the numerous workers who have helped to enlarge our knowledge of the intimate connection between the involuntary nervous system and the emotions the names of Pavloff, Cannon and Elliott stand out prominently. It had, of course, been long recognised that fear might cause certain superficial presentations, such as pallor, cold sweat, dry mouth, rising of the hair, rapid heart, quick breathing, trembling and twitching; that anger or excitement could reproduce some of these and add others rather different, such as clenched hands, blood-shot eyes, flushed face and engorged veins, contracted brows and back-drawn lips; that anxiety inhibited sexual excitement and that pleasurable anticipations of food aided appetite. But it is only in comparatively recent years that systematic efforts have been made to trace the technique.

Pavloff by "sham feeding" produced a copious flow of gastric juice in the hungry dog. Even the sight or smell of food caused a psychic secretion, just as had always been observed in the case of saliva in man and animals. Following on the flow of gastric juice came pyloric relaxation, duodenal peristalsis and out-pouring of pancreatic juice and bile. He also showed that "conditioned reflexes" could be set up, so that, when once the dog had learned the connection, a horn blown in the next room, or the sight of a specially coloured fluid, became in turn the alimentary activator. Hornberg showed that the chewing of sapid morsels caused gastric secretion, but that tasteless substances, like guttapercha, were ineffectual. Bogen found that fear and anger stopped gastric secretion, and Müller relates the case of a nervous woman who had indigestion and a feeling of epigastric "heaviness" when worried. Le Coute says excited dogs do not secrete gastric juice, and if the process has begun excitement stops it. Oechsler showed that the same effect was produced on the pancreatic secretion. Bickel showed that gastric secretion persists long after a meal is finished. From the above examples it is clear that emotional processes inhibit digestion.

The next step is to show that the inhibition caused by the emotional impulses is closely connected with the activity of the involuntary nervous system. Cannon found that cutting the vagus inhibited gastric secretion, but that, once started, vagal section did not stop it. Auer and Lommel confirmed the production of intestinal inhibition by partial asphyxiation, and Mantegazza found that pain caused vomiting and diarrhoea only if the vagi were intact. Cannon found that stimulation

of the cut splanchnic inhibited intestinal movements, caused constriction of the internal generative organs and usually relaxation of the bladder. Pavloff showed that stimulation of the cut vagus caused a flow of gastric juice, the salivary glands received more blood, and intestinal movements were increased. Cannon showed that dilatation of pupils was effected by an electrical stimulus too feeble to cause erection of the hair, also that sacral stimulation emptied the colon and bladder. Langley and Anderson showed that sacral stimulation had no effect on the internal generative organs, that the vasa deferentia, seminal vesicles and uterus had to all intents only a sympathetic nerve supply, and that the sphincters and external generative organs were stimulated by the splanchnics. The mechanism of the involuntary nervous system in producing and carrying on the various processes of internal economy seemed to be settled when Bayliss and Starling proved that all the phenomena of digestion in the mouth, stomach and duodenum could be stimulated if an acid fluid were applied to the duodenal mucous membrane after section of the nerves. This was the first intimation that another important factor was at work in body processes, and they named the agents "hormones"; these bodies have since been shown to be widely utilised in the animal economy. But while this is so it still remains true that the involuntary system is necessary for the full and regular performance of most internal functions. The two divisions exhibit generally a difference of distribution, the autonomic fibres supplying more restricted areas, and being able to act selectively, as in the three pelvic organs, the bladder, penis and rectum, while the sympathetic fibres arise from many contiguous spinal roots and are apparently designed rather for massed effects. The sympathetic influence can generally overcome the autonomic, but does not persist so long, so that in an organ reciprocally innervated the different conditions present at any one time may explain the different and divergent results observed under experiment. Cannon concludes that the use of the autonomic system is the quiet building-up of the body reserves against a time of stress, and that its operations have little result on the affective tone. From this point of view it is hardly to be wondered at that his explanation of the copulation complex is unconvincing.

The third step is to show that many of the phenomena which are produced by emotion and also by nervous outflow from the involuntary system are closely duplicated by the effects of adrenalin, attention to which was first drawn in 1894 by Oliver and Schafer.

The Adrenals.—Chromaffine tissue appears in the cyclostomata (lamprey) as thin strips on the arterial walls. In elasmobranchs (ray) groups of such chromaffine cells are segmentally arranged close to the corresponding ganglia of sympathetic nerves, while cortical tissue is represented by a pair of organs in the kidney region. In the frog the

cortex and medulla first begin to come together, but it is only in the higher mammals that complete encapsulation of the medulla by the cortex occurs. The cortex and medulla are developed from different sources, the cortex from the endoderm of the primitive coelum, and more particularly from the mesonephros, the medulla from the ectoderm as part of the sympathetic nervous system. The adrenals are supplied by pre-ganglionic fibres, and the medulla is a special adaptation of sympathetic nerve-cells. It is the medulla which secretes adrenalin.

Old experiments showed that adrenal extract relaxed smooth bronchiole muscle, counteracted fatigue, drew blood from the viscera into the lungs, central nervous system and skeletal muscles, hastened coagulation, and increased the sugar release from the liver. Jacobi traced splanchnic fibres into the adrenal glands, Biedl found that these conveyed vasodilator impulses, Dreyer found that secretory results also accrued. Tscheboksaroff found that blood from the renal vein contained more adrenalin after splanchnic stimulation. Ascher found that if the adrenal veins were obstructed general blood-pressure did not rise. Elliott showed that if the adrenals were removed pupillary dilatation did not occur; also that if one splanchnic were cut and the animal then excited the intact gland contained less adrenalin than the one whose nerve had been severed. Cannon found that if the abdominal vessels were ligatured after injecting adrenalin the general blood-pressure did not rise; also that the inferior vena cava blood from an excited animal inhibited electrical contraction in abdominal muscle, but that blood from the renal vein had no such action; nor did the inhibition occur if the adrenals had been previously removed. Bang found that asphyxia, pain and excitement increased the blood-sugar, Starkenstein showed that this did not occur after removal of the adrenals. Macleod suggested that the oxidation of the blood-sugar, by increasing carbonic acid, reproduced conditions comparable with those of asphyxia. Elliott found that histamine depleted the adrenals and at the same time produced all the phenomena of terror.

It is therefore clear from the above evidence that an emotional outflow is at one with the sympatheticotonus, and is accompanied by an increase of adrenalin, acting as a hormone.

Glycemia.—Sugar is stored in the liver cells as the polysaccharide glycogen. When required to supply energy it is katabolised into glucose, the aldehyde of the hexahydric alcohol sorbitol. Glucose has a simple molecule, and is crystalloid. It is generally produced from the dietetic carbohydrates, but can, in their absence, be produced from proteins. Under usual conditions adrenalin stimulates the output of glycogen from the liver, but this can be inhibited by an antagonistic hormone secreted by the spleen. During dietetic glycogen intake the pancreatic flow is increased by the hormone secretin, and secretin is activated by the enzyme prosecretin, formed from the duodenal mucous membrane by the action of dilute acids. This apparent complication is an example of the manner in which the body processes are interwoven, hormone (enzyme), secretion and nervous system all interacting and regulating one another automatically. The pancreas is supplied to a small extent by the autonomic system, largely by the sympathetic, and we know that the latter can generally overwhelm the former, so

what happens is that the sympatheticotonus contracts the gastric and pancreatic vessels, inhibits secretion and also causes spasm of the pyloric sphincter, therefore gastric juice is poorly produced, and what there is cannot reach the duodenum. Hence the inhibitory action of the pancreas is lowered by want of secretin, and so the adrenalin, which is at the same time produced in undue quantity, is free to liberate from the liver an excess quantity of glucose.

It has long been known that severe emotion may produce diabetes, and very many observers have noted that glycosuria is comparatively common in melancholia, and that the amount of sugar in the urine varies with the amount of the depression. Raimann, Schultze, Goodhart, Bond, Toy and Knauer all produce evidence of this. Hoffmann, and later Elliott, showed that glycosuria was easily produced in "excited" cats, Cannon found that before an important football match many players and some spectators were passing urinary sugar, and that the same occurred during examination time at a women's college.

But a better indication of the effect of emotion may be obtained from a direct estimation of the blood-sugar. Normally this may be taken as varying within comparatively narrow limits, whether when fasting or after a carbohydrate meal, *viz.*, between '07 and '12 *per cent.* Recently Kooy has published some detailed observations, using the Bang method of estimation :

| | Before breakfast. | Three-quarters of an hour after breakfast. | An hour and a-half after breakfast. | Two hours after breakfast. |
|------------------|----------------------|--|---|----------------------------------|
| Normals . . . | '098 | '114 | '116 | '104 |
| Melancholics . . | '113 | '163 | '145 | '119 |

He gives numerous percentages in other forms of mental disease, but finds that in melancholia alone is the glycaemia unduly high before meals, in great excess shortly after a meal, and disappears more slowly than in the normal individual. Hyperglycaemia is not, of course, to be looked upon as an actual cause of mental disorder, for if this were so diabetics would be more often depressed, instead of being on the whole rather cheerful and hopeful persons, but the percentage of blood-sugar is a useful index of a good many processes of tissue metabolism. Raimann found that in both depressed and excited mental states the power to assimilate glucose was lowered. Kellaway observed an increased glycaemia in asphyxia, and believed that this was caused by lack of oxygen and not by excess of carbonic acid. When both splanchnics were cut anoxaemia produced an increase of both glucose and adrenalin.

We may now summarise the principal known effects which, combined with the interaction of hormones, result from the activity of the two divisions of the involuntary system, *viz.*, the autonomic and the sympathetic. (1) Effects on involuntary muscle—pupil changes, regulation of the cardiac beat as regards both frequency and strength, and of the depth and frequency of respiration, control of the calibre of arteries and arterioles, thus influencing general vascular tone and the supply of blood to a part, movements of the stomach, intestines and bladder, control of the tone of the internal and external generative

organs, the skin musculature and the pilomotor mechanism. (2) Effects on glandular secretion, tears, sweat, saliva, gastric and pancreatic juice, bile, succus entericus, urine, adrenalin, thyroïdin, pituitrin, semen, and prostatic fluid. Most of the actions are reflexes, and both afferent and efferent paths may lie in the involuntary system or one or other in the cerebro-spinal; also most of the effects are compound, thus respiration has to do with tone of vessels and of bronchiole and alveolar muscle, and glandular secretion is an effect on vessels, capsular muscle and gland-cells. These reflexes are the ultimate physical foundations of responses which we know as affective tones, and which, when presented in excess of a definite physiological limit, may overflow as a psychic state which we call an emotion.

INFRACORTICAL CONDUCTING PATHS.

If we accept the proposition that an emotion has an important connection with the involuntary nervous system it is necessary shortly to consider the general outlines of the conduction of nervous impulses before they reach the cerebral cortex, and the possible paths by which those subserving feeling-tone may travel.

Peripheral afferent paths.—It was no exaggeration on the part of Rivers to remark that Head's brilliant conceptions of the nature of sensation added not merely a new page, but an entirely new chapter to the science of neurology. Head, Rivers and Sherren showed that three sets of fibres existed in peripheral afferent nerves. (1) The deep set run chiefly with nerves from muscles and joints, and are devoted largely to the conduction of impressions which affect essentially deformations of structure, thus giving information of passive movement and position; they also give a fair amount of power of localisation, and transmit painful stimuli resulting from deep pressure. (2) The protopathic set respond to painful cutaneous stimuli, and to the extremes of heat (45° C. and over) and cold (20° C. and under). They belong to the great sympathetic reflex system, and produce a response unaccompanied by any definite appreciation of locality. (3) The epicritic set convey impressions of cutaneous localisation, the appreciation and discrimination of light touch, and of the finer grades of warmth and coolness. The areas of distribution do not necessarily correspond, the epicritic being associated with peripheral nerves, the protopathic rather with root segments. After injury the protopathic regenerate much earlier than the epicritic, and this recovery is associated with freedom from trophic lesions. They evidently belong to a much older and more primitive developmental order. It will be at once seen that their functions to a considerable extent coincide with those associated with the basal ganglia, while the epicritic develop *pari passu* with the more recent acquisition of psychical discrimination as centred in the cerebral

cortex. Not that epicritic sensibility is of necessity a cortical mechanism, for the decerebrate frog and the spinal dog localise accurately by means of spinal reflexes; but that the higher the development of brain the more sensations of an epicritic nature tend to concentrate therein, so giving increased range of psychic perception and greater protection against injury. The presence of heat and cold spots on the skin seems definitely confirmed, and the correctness of the contentions of Blix, Goldscheider and von Frey established. Protopathic stimuli exhibit a higher threshold in the absence of epicritic control, but the response is more severe and radiates widely. To these we must add (4) conscious and unconscious visceral sensation, which, although little understood, is of the nature of protopathic conduction. The high threshold may be connected with a sparsity of distribution, but the response is widespread, and tends to cause reflex sympathetic phenomena altogether out of proportion to the actual pain felt, as the tendency to fainting in spasm or fissure of anus. Section of the healthy gut is almost painless, but the pain in inflammatory states may be very severe or altogether absent. A consideration of these various phenomena has led Ranson to believe that protopathic fibres are unmyelinated; he states that they are abundant in the peripheral nerves and also extend up the cord, largely connected with Lissauer's tract and the substantia gelatinosa in the neighbourhood of the posterior roots.

Peripheral efferent paths.—For long the conception of a final common path from anterior horn cell to periphery, as enunciated by Sherrington, had been considered as settled, but more recently Ramsey Hunt has elaborated the theory that there are two distinct systems of motor fibres to skeletal muscles, (1) the paleokinetic to the sarcoplasmic substance, associated with slow tonic contraction, and (2) the neokinetic to the sarcostyles, associated with the quick, spasmodic, "voluntary" contraction. He holds that the principle is carried right through from periphery to centre, and is likewise represented in the cerebellum. Anatomical evidence is adduced from the ventral root fibres in the thoracic region, which, it is alleged, cannot all be of sympathetic origin, and also from the comparative ontogenetic myelination of the roots. Clinical evidence is adduced from the observed differences between the two forms of muscular hypertonus, rigidity being referred to striospinal influence, spasticity to corticospinal. These differences we see daily in the wards in the melancholic or katatonic on the one hand, and the spastic epileptic on the other. But the two possibilities still cause much discussion, and cannot be looked upon as settled.

Spinal afferent paths.—In the cord the three sets of fibres—deep, protopathic and epicritic—end at the first intercalary neurone, and impulses are regrouped so that all sensations of pain, from whatever source, pass up together, and likewise all sensations of heat, cold, touch or pressure. The posterior columns are composed of fibres direct from

the roots, which have not yet entered the grey matter. Some fibres enter it rapidly, some after a longer or shorter course, some not until they reach the nucleus gracilis or nucleus cuneatus. Pain, heat and cold fibres cross in the anterior white commissure and may be interrupted in syringomyelia. Impressions of pain filter across within five or six segments and after regrouping pass upwards in the contralateral posterior spinothalamic and spinotectal tracts of the lateral column, although a few fibres seem to run in the ipsilateral tracts of the same name. Heat and cold follow much the same course, but are more completely crossed. Lesions have been found in cases where these sensations had been dissociated, but the paths are always in anatomical proximity. The spinothalamic and spinotectal fibres are mixed together in their upward course. They send a bundle to the superior cerebellar peduncle and vermis, fibres and collaterals to the formatio reticularis, Deiter's and the lateral nuclei to cerebellum *viâ* the middle peduncle, and to the lateral fillet. The spinotectal fibres end in both colliculi, the spinothalamic in the ipsilateral ventral and ventrolateral nuclei of the thalamus.

Impulses of touch and pressure do not cross so readily, and for some distance a double path is thus available; the fibres are found both in the ipsilateral posterior column and in the contralateral anterior spinothalamic tract of the lateral column. Impulses underlying the sense of position, passive movement and tactile discrimination do not cross until they reach the cells of the gracile and cuneate nuclei. As they ascend they are displaced mesially, so that eventually Goll's column consists of fibres from the lower, Burdach's from the upper extremity. These columns are continued in the mesial fillet, and after giving fibres to the inferior olive, formatio reticularis and anterior colliculus, end in the lateral and ventrolateral nuclei of thalamus.

Unconscious impulses underlying muscular co-ordination and the reflex tone of involuntary muscle, both in skin and vessels, come in from the sympathetic system in the thoracolumbar region and reach Clarke's column in the posterior horn. Some then run in the ipsilateral (direct) dorsal spinocerebellar tract of lateral column to the inferior cerebellar peduncle, the rest in the contralateral (crossed) ventral spinocerebellar tract of lateral column to the middle or superior cerebellar peduncle, probably the latter.

Spinal efferent paths. (1) *Pontospinal tract* (olivospinal, bulbo-spinal).—This tract is stated to be recognisable in degenerations from the inferior colliculus, or even from the thalamus, to the formatio reticularis, but the anatomical complications are too great to admit of positive statements. From the grey formatio the fibres run down the cord partly in the ipsilateral anterior column external to the vestibulospinal tract and partly in the contralateral lateral column. Together with the vestibulospinal the fibres seem to have an important connection with the maintenance of muscle tone and the erect posture.

(2) *Vestibulospinal tract*.—Sachs considers that this tract may be traced from the contralateral lateral thalamic nucleus, but this is probably not so. It is more apparent after Deiter's nucleus is reached, and runs down the anterior column, mostly ipsilaterally, as far as the anterior horn-cells of lower lumbar roots. It myelinates at the end of

the third month of intrafoetal life (Hösel). The tract first appears in some of the higher teleostean fishes (Ahlborn) as eight fibres on each side arising among the cells of the vestibular nucleus, and supplying the automatic balancing mechanism of the tail muscles. I think it possible that this mechanism may have something to do with the air-sac becoming a closed vesicle, for it does not appear in eels, where the air-sac is still in communication with the intestine.

(3) *Tectospinal tract*.—This and the vestibulospinal are the oldest efferent tracts. It appears in the crayfish, lobster and fishes as "Mauthnerian" or "Müllerian" giant fibres having to do with balance by sight. In man it arises in the anterior colliculus, crosses in Meynert's "fountain decussation," and runs down the lateral column as the ventral longitudinal bundle to the horn-cells of the lower lumbar roots. It myelinates during the fourth month of intrafoetal life. Its connection with the optic tract seems to have now disappeared, and degenerations indicate that it is connected with the cochlear nerve.

(4) *Rubrospinal tract* (Monakoff's tract).—This tract constitutes the principal extrapyramidal efferent path, and is the voluntary efferent path in birds. Starting from the large cells of the globus pallidus, and intercalating in the nucleus ruber and associated nuclei, it decussates in Forel's crossway and runs down the lateral column of cord, anterior to the crossed pyramidal tract, as far as the sacral roots. It myelinates during the fifth month of intrafoetal life. It is well developed in amphibia and reptiles as well as birds, and better in the dog than in man, being generally present in inverse ratio to the pyramidal. It seems probable that in some marsupials, where it runs in the posterior columns, it may have direct connection with the cerebral cortex, for experiments are described in which section of one crus has produced four degenerations, two on each side.

(5) *Pyramidal tract*.—This is the newest efferent tract and is not fully myelinated until long after birth. The fibres arise as the axons of the Betz cells in the fourth and fifth layers of the precentral cortex, run through the crus, decussate at the lower medulla, and run down in the contralateral lateral column to end round the cells of the posterior horns, intercalating afterwards to the anterior horn-cells. Part of the tract does not cross but runs direct down in the ipsilateral anterior column as far as the mid-dorsal region. Some of these fibres come from the opposite hemisphere *via* the corpus callosum and have to do with bilateral shoulder, arm and hand movements. The pyramidal tract possesses great interest as showing how, with the development of the neopallium, short-circuiting comes in as a time-saving device; and the Betz cells are the most interesting feature in it. Giant cells are common in the invertebrata, and postulate long axons. In the earthworm the fibres are practically the only means of long-distance connection between the segments, and exist as three large hollow fibres disposed round the gangliated cord. In the leech they are chromaffin cells, the progenitors of the present adrenal body. In crayfish they give rise to two giant fibres equilibrating the tail, in the lamprey and higher fishes they appear in great numbers, and lastly they are used in our own newest tract. And in every case they indicate an organisation not yet arrived at maturity. In every case they give off collaterals, one fibre

going to many cells and making possible the so-called "axon-reflex." In later developments the Betz cells, in the embryonic stage, subdivide and the axons become more numerous, thereby still further differentiating function. In each case this type of neurone is found in the final collecting station of its group of nuclei, and acts as a mere transmitter of trunk-line messages.

Cerebellum.—All impulses arriving by the inferior or superior peduncles pass direct to the cerebellar cortex, the fibres ending round the Purkinje cells. Here the whole body appears to be serially represented. Probably not all sensations reaching the cerebellum are finally lost. The co-ordinated results of some reach the thalamus, and even the cerebral cortex, eventually raising conscious sensations. Cerebellopetal impulses are largely received from the frontal, parietal, and especially the temporal region through the homolateral formatio reticularis, and so across by the middle peduncle reach the contralateral cerebellar cortex. Many also come from the semicircular canals through Deiter's nucleus.

Cerebellofugal impulses pass from the central nuclei, especially the dentate. Those in the superior peduncle reach the contralateral red nucleus and thence the lateral thalamic nuclei; a small number pass to the frontal, parietal, and occipital cortex by relays through the contralateral formatio reticularis, crus and internal capsule. The middle nucleus gives crossed and uncrossed fibres to Deiter's, the vestibular and most sensory bulbar nuclei.

Optic thalamus.—The thalamus is the end station of the fillet and superior cerebellar peduncle. In its essential nuclei sensory impulses once more undergo regrouping. Those which underlie the more primitive instincts, and, at the same time, influence the affective tone, are dealt with on the spot. These are mostly protective and are such as give rise to pain, but some—such as sexual feelings—produce an opposite effect. The class of stimuli which are passed on to the pallium is made up of such as involve discrimination, localisation, postural recognition and comparisons of intensity—those, in fact, which demand judgment, which is mnemonic comparison of former percepts. It seems plain that impressions of all kinds are liable to affect the cortex when they depart to any extent from a certain normal mean; thus excess of cold and heat may be interpreted as pain. I cannot quite gather whether Head implies that if all connection were severed between the pallium and an intact thalamus pain would still be felt. Manifestly such a condition, either experimental or pathological, would be most difficult to bring about. It seems to me that, just as in hypertonicity the pyramidal tracts must not be wholly destroyed, so to permit consciousness of pain or excessive temperatures the thalamo-cortical paths must be partially preserved. Normally it is plain that the cortex limits thalamic activity, but I am not prepared at present to believe that consciousness of any kind is possible apart from the cerebral cortex. A profound loss of cortical function is seen in advanced dementia, and here impressions of pain are difficult to evoke, while the affective elements of sensation are entirely lost. It may be objected that thalamic atrophy is also present, but this is unlikely, for there is no cerebellar or bulbar defect. On the other hand, in low-

grade idiots there is a low emotional threshold, resulting in whines when cold or hungry, or struggles when moved. Pagano's experiments, however, seem to support Head's contention. In Korsakoff's syndrome, where there is interruption at both extremes of the anatomical path and the discriminative elements of sensation are lost, we find the combination of intense deformative reaction to pain with the exalted feeling-tone.

The thalamus consists essentially of two distinct parts—an outer, comprising the lateral nucleus, which receives the fillet and cerebellar afferent fibres and sends out a very complex radiation to all parts of the pallium; and an inner, which includes the anterior and middle nuclei and is anatomically associated with the nucleus caudatus and putamen. The corticopetal fibres pass especially to the postcentral lobule, but also to the precentral. Few go to the frontal pole, and some cross contralaterally in the corpus callosum (Turner and Ferrier). On the other hand Sachs finds that by far the largest number of corticopetal fibres go to the precentral gyrus and are mostly of medium size; those to the postcentral are fine, and very few are of medium size. The thalamocortical fibres to the Rolandic area are arranged dorso-ventrally. In all regions of distribution the fibres between lateral thalamic nucleus and pallium are both thalamocortical and corticothalamic. Many go to the temporal and occipital regions. Some palliotectal fibres may run through the thalamus without connections with its cells, but the system of corticothalamic fibres is very complete, and is especially developed from the temporal and occipital regions.

Corpus striatum.—The striate body consists of two distinct parts, the caudate nucleus and putamen constituting the neostriatum, the globus pallidus the paleostriatum. The latter is found in fishes as the basal nucleus, the former is first found in reptiles, and is well developed in birds. It is likely, therefore, that in man the striate system has, as a functional complex, commenced to regress. The central connections are entirely through the thalamus, none are direct; bundles of fibres pass from the lateral nucleus of that body to the small cells of caudate nucleus and putamen, then to the large cells, especially of globus pallidus, by intercalary neurones, thence by the ansa reticularis system to nucleus ruber, nucleus hypothalamicus and locus niger. Some fibres may run from the globus pallidus to thalamus.

THE NATURE OF AN EMOTION.

Ever since attention was drawn by Roussy to the existence of a "syndrome thalamique" there had been a fairly general assumption that the thalamus had an important function in modifying sensory percepts; we gather evidence of this from the work of Nothnagel, Dana, Mme. Vogt and others. But it was left to Head to examine and codify the nature of thalamic sensations, and more especially to show that partial interruption of the thalamocortical path had a profound influence in releasing sensations registered in the thalamus from the inhibitory effects of cortical activity. This view is now accepted by all, and needs little further comment. Normally all sensations reaching

the thalamus are subjected to minute analysis in the cortex, and allowed or censored after judgment passed. In certain diseased conditions either the connecting path is impaired or the cerebral cortex is unfit to function, and the sensation then rises to the dignity of an emotion, a condition which applies more particularly to such as are endowed with an unpleasant feeling-tone, for these are the primitive animal's first line of defence against danger. If the interruption of the connecting paths be complete or the cortical neurones be wholly thrown out of action no sensations reach them, and complete anæsthesia, with total loss of feeling-tone and emotion, results.

It will be desirable to avoid a too close psychological differentiation between sensations, percepts and affection, for it is evident that in a matter so complicated as a mental process a simple sensation is an impossibility. We may, therefore, for present purposes, look upon an emotion as a temporary flood in a stream of feeling-tones, a sudden spate which, under normal circumstances, soon dies away. These emotions are pure reflexes, they have reached the thalamus in countless myriads certainly since vorticella first became endowed with a peristome and so developed its primitive orientative and nutritio-procreative responses, for the early brain was in its nature hippocampo-thalamic. The lower mammals, but especially birds, are, as Stoddart points out, much more under the control of the emotions and their crystallised resultants, the instincts, than is man. Every breeder of high-fertility fowls knows that the visit of a stranger to the pens lessens the egg yield for several days afterwards. The defence cries of animals are an interesting study on the emotional side, although not strictly germane to the present subject. Gregarious animals whose main defence is the "mobbing" instinct, such as dogs and most birds, make as much noise as possible when disturbed; solitary animals and those gregarious animals whose main defence is flight, keep silent until the last moment of supreme danger; hence the peculiar poignancy in the scream of the stricken horse or the squeal of the dying rabbit. These ancestral reflexes are so strongly impressed that they persist even in states of unconsciousness.

We have seen that the great sympathetic function is to warn against danger, and the great autonomic function is quiet construction. But there is a much older element, the influence of the hormones. This is so built up into the activities of the two parts of the involuntary system that the three together form the tripod upon which the animal organism functions. A part of the hormone system is the action of enzymes, so that these activate and interactivate among themselves in bewildering but specific nicety. It is evident that the nervous influence is an after-growth, the result of which was first to accelerate, then to control. It would compose a simple and attractive picture if we could conclude

that the sympathetic function was unpleasant and defensive, that the autonomic was pleasant and assimilative. But, unfortunately, the matter cannot be so easily disposed of. There are some emotions, such as fear, which are comparatively simple; others, such as anger, which are very complex. Yet anger always arises out of fear, pugnacity out of panic. Anger is at first unpleasant, and only assumes a pleasant feeling-tone when it reaches a sublime disregard for personal safety, as so often seen in epileptics and moral imbeciles. Again, the sexual reflex in man is instantly dominated by anxiety, but this is not so in all animals. In the frog the sexual reflex is prepotent, and it is said that the male may remain for three weeks or more in the "clasp posture," utterly regardless of hunger, pain or cold. I have seen three males so clinging to one female for many hours, and the only successful inhibitor of the postural reflex was continued immersion. Even in the dog the comparative prepotency of the sexual reflex may be seen. He may die of pneumonia if someone throws a jug of water over him on a winter's night, but he refuses to budge from the desired door-step. Yet the innervation of the sexual organs differs little in the frog, the dog, and man. It is evident that both the autonomic and sympathetic systems partake in the physiology of every emotion, but the relative importance of their rôles varies from time to time.

All feeling-tones do not eventuate in emotion, and, as Head says, the less the projection and the greater the association the more is a percept divorced from feeling-tone. All defensive emotions are not tornados—they may develop slowly and last for weeks or months; such a condition constitutes a state of depression. It would appear that in melancholia there is a chronic hyperadrenalism, and although degenerative changes have been described in these glands in various mental disorders it is generally the cortex which is referred to, with whose activities we are not now concerned. And the choice of involutionary melancholia as the subject of this address was largely guided by the possibility of eliminating the positive influence of the thymus, thyroid and ovaries, which in presenility are more or less atrophic. As to the pituitary, we know too little of its internal influence in later life to make it worth attempting to weigh it up, and in the kidney we have a fairly constant factor, for most of such patients suffer from renal cirrhosis, although only a small percentage become depressed. We are, therefore, in a position to make an attempt to trace the anatomical mechanism used by the passage of an emotion. I agree with Stoddart, except as regards the thalamocortical path:

(1) A percept arrives at the outer part of the thalamus from one of the cortical centres. The commonest projections are visual or auditory, and it must be noted that a direct thalamic impulse will not do;

such a sensation must be first elaborated in psychical association centres. A strong peripheral excitation may be realised as pain, but never, in the first instance, as an emotion.

(2) At the same time the inhibitory paths to the skeletal muscles by way of the pyramidal tracts remain closed.

(3) The impulses are codified in the essential thalamic ganglia and some pass from the inner part of that body to caudate nucleus or putamen.

(4) Translated into a motor impulse the path leads from the globus pallidus *viâ* the pes anserina and red nucleus down by the rubro-spinal tract.

(5) From the anterior cornual cells (except in the case of inhibitory impulses to blood-vessels, which are antidromic from the posterior horn) the excitation is distributed either by the "final common path" (Sherrington) or by the paleokinetic fibres (Ramsey Hunt) and to the paravertebral ganglia of the sympathetic and the ganglia connected with the bulbosacral outflow; thence to the secreting cells of glands, and to the sarcoplasmic elements of voluntary and involuntary muscle, the latter in skin, vessels, heart, lungs, glands and intestinal walls. Here it produces its specific action, either motor, inhibitory or secretory.

(6) The resultant is a complex of sensations which pass back to the posterior roots, largely by protopathic or deep fibres and the sympathetic units to Lissauer's tract and so into Clarke's column.

(7) The upward cord path is complicated and uncertain. Some impulses at least may travel by the ipsilateral posterior column, and, after gradually crossing, by the contralateral spinothalamic tract. Others probably go to the cerebellar cortex in the lateral columns by the ipsilateral dorsal spinocerebellar and contralateral ventral spinocerebellar tracts.

(8) From the dentate or other internal cerebellar nucleus the impulses pass to the pontine and red nuclei *viâ* the middle and superior cerebellar peduncles, and then go to reinforce, in the fillet, any which may have travelled direct, the latter entering the inferior part of the lateral nucleus of thalamus, the former being disposed to the superior part.

(9) After integration in the thalamus some of the impulses travel to the cerebrum by the thalamocortical radiation, and are realised in consciousness.

The path of an emotion takes a ludicrously long time to describe, but not proportionately longer, if we compare the relative speeds of speech and thought, than it takes to materialise; for it is doubtful if any emotion has a shorter latent period than .75 sec., much longer than the reaction period of an ordinary reflex act. To my mind this is the strongest proof of what is now recognised, that the motor-sensory

complex causes the emotion, not the emotion the motor-sensory complex. In practice no method of measuring the reaction time of an emotion can be satisfactory. A simple cortical reflex without discrimination takes '15 sec., with discrimination '3 sec. The galvanometer needle in the case of an emotion is deflected after 3 seconds, a large part of this delay being due to the time taken for sweat to be secreted. We realise introspectively when we duck the head from a flying object that the muscle reflex is over long before the cardiac acceleration is perceived. The latent period of an emotion, unlike that of an ordinary cortical reflex, cannot be shortened by attention, for it is thereby destroyed, nor by expectation, for the emotion has already been created.

THE STATE OF DEPRESSION.

At this point it will be helpful to review some of the signs which we find present in states of depression, and compare them with those we have already found to be characteristic of the depressive emotion. The heart action tends to be weak, the pulse rather frequent, but quick and soft. The systolic blood-pressure in the brachial artery in the erect posture is inclined to be low. This is in opposition to the findings of Craig and others, but we have taken the readings in some hundreds of cases, both soldiers with the anxiety neurosis and depressed persons of all ages and both sexes in hospital and consulting practice. In the few cases in which the blood-pressure was materially raised there was ample evidence—such as enlarged heart or albuminuria—of chronic Bright. But in melancholia the distribution of the blood is unequal, the skin is poorly supplied, as are also the viscera, the urine being diminished. Capillary dilatation is not seen except in some cataleptic cases or those of anergic stupor, which we are not now considering. It should be noted that adrenalin acts on the arterioles, histamine on the capillaries, where there is no evidence of the existence of vasomotor nerves. The capillary flow in the secretory glands is small, but the capsular tissue is contracted, so that they feel hard. There is sometimes slight sweating, so that the electrical resistance of the skin is lowered, but in general the secretions are diminished, especially the intestinal, a furred tongue and constipation being the rule. Peristalsis is diminished and the sphincters are contracted, hence hydrochloric acid tends to collect in the stomach, and the normal hormonal train of digestion is interfered with; anorexia is marked. As to the lacrymal glands, "misery is dry-eyed." Accommodation is impaired and the pupils are large; in many depressed neurasthenics lateral pseudonystagmus appears. The skin is muddy and sallow, pigmented in the flexures, pointing to partial hæmolysis. The "voluntary" muscles act poorly, due to at least three causes—weakness of cortical impulses, imperfect removal of fatigue

products, and deficiency of muscle catalysts. On the emotional side there is increased reaction to unpleasant stimuli, although the threshold is raised; reflex postures appear, and in anxiety neuroses rhythmical tremors, pointing to loss of cortical control over the thalamo-rubro-striatal system.

The foregoing signs make it evident that the state of depression is nothing more than a persisting sympatheticotonus, but when we have to analyse the anatomical paths two fresh complexes appear—the one is enterostasis, the other the unconscious memory. I believe that enterostasis, whether produced mechanically or by enterospasm, is a necessary precedent to a state of depression. The frequency of visceral sensations, feelings of weight and oppression, or actual delusions, makes it inherently probable, and when we find it present clinically all doubt is removed. Naturally the enterospasm is not constant, any more than is anxiety, but the greater the anxiety the more likely is one to find it. When we have obtained a detailed history of onset in a case we invariably find that the depression was a secondary mental state and was preceded by some slight visceral disturbance. If the mental causative factor be large the visceral may be small, and *vice versa*, for many normal persons are living little over the border-line between effective bacteriolysis and toxæmia. Commonly a history like this appears: A young girl has a love disappointment which has worried her for some weeks or months. A day or two after a menstrual period she begins to think her relatives are different towards her; next the people in the street look at her strangely, and in a few days depression comes on. Or in an involutionary case a relative will tell one, "Father's memory began to fail a few years ago, but he did not talk strangely until a month ago; three days ago he tried to cut his throat." The father is found to have advanced enterostasis. No one constantly living with cases of mental disorder can fail to believe in bacterial toxæmia. I am aware that it is maintained that *B. coli* are never found in the blood except *post-mortem*; this does not alter the probability that the chemical products of bacteriolysis are there. Probably also sub-infection occurs, and is one of the causes of cortical degeneration, in which case the bacilli would naturally not be found. The colon infection need not be primary; it may follow a deteriorated blood state, biochemically produced, as in alcohol, or prolonged lactation, or resulting from some other bacterial invasion, as in the puerperium, or rheumatism, or influenza, or tuberculosis, or pyorrhœa alveolaris. I believe there is a hereditary tendency to enterospasm, that it is in fact one of the phenomena of the neurotic inheritance; so far, therefore, the contention of Eppinger and Hess that a sympatheticotonic and a vagotonic temperament exist appears to be justified, and here again we see the usual vicious circle, for the enterospasm leads to bacteriolytic

absorption, and this to defective cerebral control, which brings on a sympatheticotonus with increased enterospasm, and the result is depression.

As to the unconscious memory, it is no use denying its existence, as some would prefer, for it actually exists; the censure can be removed by psychotherapeutic methods, and when the conflict is resolved more rational mental complexes can be built up. In cases before the presenile period the unconscious memory is a most potent factor in weakening the normal psychical control of the cortex over the thalamus, but to erect it as the sole fence that needs to be climbed, and to claim that physical measures are useless to cure, is as futile as to maintain the opposite opinion, for even such an elusive element as the unconscious memory is partly capable of definition in terms of ordinary physiology.

Regarding the paths used in states of depression there is probably not much difference from those of the depressive emotion. Enterostasis will produce afferent stimuli which reach the psychical centres and may at times be fabricated into delusions. The unconscious memory will act in association centres through projection centres, not directly. The presence of the downcast expression and reflex postures indicate vestibular reinforcement through extrapyramidal paths, the vestibulospinal and pontospinal tracts, and we can often do real good in our treatment by encouraging the patient voluntarily to inhibit these extrapyramidal reflexes by continuous attention.

The phenomena observed in states of depression are, therefore, nothing other than a condition of persistent sympatheticotonus, a defensive reaction chiefly of the infracortical nervous system, involving hyperadrenalism, hyperglycæmia, the adducted posture, enterospasm and defective cortical inhibition. These basic facts seem to be established, for their presence in states of fear has been fully proved by the observations of many workers, and a state of depression is one of persistent fear.

THE EXALTIVE EMOTION.

The nature of percepts devoid of feeling-tone does not now concern us, but in order to search for any evidence of some fundamental difference between the conditions which pertain to the depressive and exaltive emotions respectively it will be necessary to say something about the latter. Now this subject is very much more difficult than the one we have been considering, for the original object is no longer defence against an enemy, a matter kept perpetually before every animal throughout its whole life, but is merely an occasional episode, and one which has therefore tended to be far less stereotyped. When one looks round over the fields of physiology and pathology only two examples can be found which fulfil the objects of our search; the one,

the exaltive emotion, is the sexual reflex; the other, the state of exaltation, is the early preparalytic stage of paralytic dementia. There may be better examples; if so I cannot find them.

The innervation of the sexual organs was studied by Langley and Anderson, and their dissections of the parts are a model of patience and minute care. The internal organs, uterus, vagina, prostate, vasa deferentia and vesiculæ seminales, have a sympathetic supply only, *viz.*, through the hypogastric nerves. The external organs, penis, clitoris, erector penis and sphincter vaginæ, have a double supply, from the sympathetic through the pudics and hypogastrics, from the autonomic through the pelvic nerves (*nervi erigentes*). Electrical stimulation of the hypogastric produces a wave of contraction in the vagina passing into tonic spasm, with blanching of the walls from vasomotor constriction, while the vasa deferentia, vesiculæ seminales, and involuntary muscle of the prostate are strongly contracted, emission of semen and prostatic fluid occurring. Stimulation of the pelvic nerves produces active dilatation of the muscular tissue in the walls of the venous sinuses of penis or clitoris, causing strong erection, with inhibition of vaginal movement and relaxation of the sphincter. It would therefore appear at first sight that we have here a powerful autonomic wave, which overcomes and inhibits the sympathetic. But in the sexual act the progress of events is different, for we have rhythmical peristaltic waves of contraction and relaxation in vagina, vesiculæ seminales and vasa deferentia, and finally the same phenomenon spreads to the detrusor urinæ and sphincter vaginæ, while the inhibitory dilatation of penis and clitoris is tonic, as is also the spasm of the vesical and anal sphincters, the dilatation an autonomic, the spasm a sympathetic mechanism. Not only so, but the uterus becomes turgid and rises in the pelvis and the fimbriæ of the Fallopian tubes open widely, both apparently from sympathetic inhibition. It is therefore evident that in the sexual reflex we find a nice adjustment of autonomic and sympathetic influence regulated in strict accordance with sensory afferent stimuli. The pain on pressure after discharge is a strictly protopathic function of the innervation of glans penis and clitoris whose mucous membrane is derived from the endoderm of the hind-gut, while the skin of penis and foreskin, endowed with epicritic functions, is derived from the somatic ectoderm. The centre for the sexual reflex is in the lumbar cord, but the feeling-tone is a function of the thalamus. Head quotes two cases suffering from thalamic lesions who showed the exaltive feeling-tone. In one a woman found exquisite pleasure in the apposition to the chest on the affected side of a hot-water bottle which on the sound side felt only comfortably warm. In the other a man confessed to erotic feelings on the affected side, "I crave to place my (right) hand on the soft skin of a woman." Here we

find the creation of an erogenous area by disease, similar to those which occur normally on the mammae, or, in fact, on any part of the body. It is evident that the thalamus is the centre which presides alike over the depressive and exaltive feeling-tones and emotions. The sexual reflex differs from the depressive emotion in that it is accompanied by a free flow of arterial blood through arteries and veins, the heart is beating powerfully and the breathing is deep; oxidation of the blood is at its maximum. In his treatise on "The Automatic Bladder" in severe gunshot wounds of cord, Head gives several instances of the delicate adjustment between the functions of the autonomic and the sympathetic nervous systems. The patients, who were completely paralysed and devoid of sensation below the level of the injury, exhibited the mass reflex. When the bladder was full hyperidrosis occurred, and facilitation of contraction by peripheral stimulation was possible. In some cases slight physiological connection with the brain still existed because the cord was not completely destroyed. In such cases the patient was ignorant of the catheter manipulations, but knew when the bladder was full by the sweating which occurred. If pinching the glans penis or other form of irritation produced erection no sweating appeared. One such patient experienced the "thrill" or "shiver" of a pleasant nature when the distension was relieved, which is often normally felt. The contrast between the sympathetically induced hyperidrosis and the autonomically induced erection of penis or nervous thrill, so analogous to the phenomena associated with sexual excitement in the normal individual, well illustrates the reciprocal integration between the two divisions of the involuntary nervous system.

In general paralysis the neuronc degeneration is so universal, and the disorganisation of the blood state so marked, that I desire to say as little as possible about it, but I draw attention to the facts with which we are all familiar, that in the early stage of exaltation we have a free flow of highly oxygenated blood through brain and body, as evidenced by the full heart-beat, the deep respiration, the insanely erect attitude, the abducted posture, the free gait, the muscular activity, the bright eye and the activity of the secretions. Whether all these are a reflex response to the toxæmia does not concern us. My thesis is that in the exaltive emotion there is hyperoxæmia, in the depressive anoxæmia; it follows that the essential determinant of the state of depression is an anoxæmia.

ATHEROMA AND ANOXÆMIA.

I put forward the theory that in states of depression there is a condition of general anoxæmia due to the failure of the hæmocytes to convey sufficient oxygen to the tissues; but when direct proof is asked for I may at once say that it is not forthcoming. I have never been

one of those who believe that the acute psychoses are primary results of cerebral disorganisation, or that the clinical distinction between the various types was any other than a more or less accidental occurrence, although doubtless produced by a special presentation of disordered metabolism. But without losing sight of Clifford Allbutt's dictum, "The paths of science are paved with the broken stones of finalist hypotheses," it may still be justifiable to give some indications of probability, and in this connection the study of atheroma may help.

Atheroma is normal to senility, and is an index of involution, but it occurs prematurely in practically every case of involutionary melancholia. It is also one of the most constant factors in syphilis, a disease in which there is no reason to premise a failure of tissue oxidation, although McDonagh maintains that there is. Oberndorfer found aortitis in 7 *per cent.* of 1436 adult *post-mortems*, Grober in 4 *per cent.* of 6000. In 256 undoubted syphilitics Marchand found the percentage to be 82, Dencke 88.6, Oberndorfer 67, and Citron in congenital cases also 67. In our last 288 male and 284 female *post-mortems*, total 572, on persons under 50 years of age, macroscopic arteritis was found present in 52.08 *per cent.* of males and 30.28 *per cent.* of females; in general paralytics in 79 *per cent.* of males and 92 *per cent.* of females; in epileptics 30.55 *per cent.* of males and 13.33 *per cent.* of females.

Atheroma is the result of an abnormal amount of ionisable calcium in the blood-stream, due to either increased intake or excessive tissue output, and Percy Lewis found that it was not commoner in limestone districts or among milk drinkers. Nor can it be produced by feeding animals with excess of the inorganic calcium salts. There is a considerable amount of evidence linking up intestinal inaction and bacterial invasion with its development. Thus Simnitzky found that it was apt to occur after most of the specific fevers, and especially to be produced by the pneumococcus; McCarrison found that in pigeons and guinea-pigs on a beri-beri diet the feeding of bacterial material produced enterostasis and neuromuscular intestinal impairment, facilitating bacterial invasion. Manouélian produced atheroma in 25 out of 33 rabbits by the inoculation of faecal material. Robertson recognises five classes of toxæmias, of which three are endogenous. It has long been recognised that indicanuria was an index of increased intestinal bacteriolysis, and Mackenzie Wallis, Townsend and others found an increased excretion of potassium phenylsulphate and indoxylsulphate in melancholia and believe that both aërobes and anaërobes favour proteolysis. Metchnikoff thought that anaërobes especially produced toxæmia. Mellanby and Twort believe that atheroma is not caused by these bodies, but by the decarboxylation of aminoacids by bacteria, and that these creatin-splitting organisms are destroyed in the liver. D'Abundo and Agnostini were of opinion that intestinal intoxication

was not the primary but the secondary result of bacterial invasion, the primary being mental worry or shock. Pellagrini found atheroma common among prisoners of war, and attributed it to mental causes. Goodall obtained indifferent results when searching for organisms in the blood, and Ceni found various bacteria only just before death, and considered such invasions to be mostly *post-mortem*. But these results are not surprising, for it is not so much the bacteria as their chemical toxins which are supposed to be absorbed. The connection between pyorrhoea and the development of chronic rheumatism, osteoarthritis and fibrositis is universally admitted.

The calcium in atheromatous patches is associated with cell fats and lipoids. Substances which diminish surface tension tend to accumulate at the periphery of body cells, and so the plasmatic membrane is largely composed of lipoids. Attention was first drawn to the importance of these bodies in cell metabolism by the work of Overton and Meyer. They are soluble in ethers and alcohols, dissolving out with the fats. The chief classes of lipoids recognised up to the present time are :

(1) Carbohydrate substances based on cholesterol, an unsaturated monohydric alcohol built up of five reduced benzene rings with an open chain doubly linked at the end. Cholesterol tends to prevent bacteriolysis, hæmolysis and the action of poisons.

(2) Glucosides, containing N but no P, two of which, phrenosin and kersin, called cerebrosides, have been isolated from nerve matter. They yield on decomposition a monoaminohydroxy alcohol, a fatty acid and galactose.

(3) Phosphatides, containing both N and P, the best known of which are the lecithins, which yield glycerophosphoric acid, two fatty acid radicles and cholin, an ammonium-like base, and the kephalins, where hydroxylethylamine replaces cholin. Lecithin favours bacteriolysis, hæmolysis, and the action of poisons. Another phosphatide, sphingomyelin, contains no glycerol.

(4) Sulphur lipoids. With these are associated water-soluble organic substances, nucleoproteins, globulins and inorganic substances, especially calcium.

The normal processes of metabolism occur through the agency of specific enzymes and antenzymes, bodies of a protein-like nature. These processes are analogous, but not similar, to those of bacteriolysis and hæmolysis. There is reason to suppose that the water-soluble vitamins are of a like nature, but that the fat-soluble vitamin *A* is lipid in construction. In the anabolism and katabolism of the materials to be used for cell-building, no organ takes a more important part than the liver. It receives, for example, the bacteriolytic products from the intestine in addition to the digested food materials. The aminoacids are in the liver possibly built up into proteoses, and then combine with non-specific complement, forming bodies of a globulin-like nature which possess a larger molecule. It would appear that the

two most important results of excessive bacterial action in the intestine, especially of the anaërobes, are increased production of ammonia and decarboxylation of aminoacids. The former is rendered more effective by the inhibition of the growth of the lactic acid groups, and the latter releases toxic pressor and depressor bases. The combined effect is lowering of the hydrogen-ion content of the serum, and as this must be restored at all costs or else wide-spread cytolysis and hæmolysis, with somatic death, would quickly ensue, a severe call is made on the sodium bicarbonate and sodium phosphate "buffers," and carbonic acid is obtained from the fatty acids of the lipoid-globulin complexes. This reaction sets free proteolytic and lipolytic enzymes which disturb especially the delicate balance between the lecithins and cholesterol, giving rise to the disintegration products which are found in the blood-stream. If fat destruction reaches an extreme degree all the free CO_2 is breathed out in the effort to secure oxygen, and the state of "acidosis" results, with formation of B-oxybutyric and acetoacetic acids. The body fixes its ammonia and alkalis its cells, so that the titration value of the "alkaline reserve" is lowered. Moore, Galleotti, Haldane, Priestly and others have shown that alkalinity of the blood is the predominating factor in shock and that the condition is one of anoxæmia. My colleague at Stafford, Dr. B. H. Shaw, working both on the psychoses and on the delirium of malaria, finds acidosis especially associated with states of confusion, and attributes to it some cases of melancholia. At Cheddleton we have not found acetonuria in states of depression unless confusion was marked, as in melancholia attonita or post-convulsive epileptic automatism. The association of acidosis with anoxæmia is seen in the air-hunger of diabetic coma.

There is evidence that liberation of cell lipoids is concerned in the production of atheroma. Thus, Loeb, Wacker and Huack produced it in animals by feeding cholesterol over long periods, and Elliott showed that the adrenal lipoids greatly increased under similar conditions. Faber proved the presence of lime and fatty granules in presenile arteries where no evident atheroma had developed, and in fact anisotropic fats have long been recognised in atheromatous patches. Blair Bell showed that removal of the adrenals from rabbits increased the calcium excretion from seven to sixteen times, and that osteomalacia developed. He also showed that the internal secretion of ovary and thyroid depleted the blood and tissues of calcium, and that the adrenals had an antagonistic action. In ovulation the cells were observed carrying the lime granules to the surface. In hens in full lay the blood-calcium is high, and drops suddenly a few hours after an egg is laid. Some years ago I found that the vitamine fat-soluble *A* helped to ionise calcium; if hens were given 7 c.c. of milk daily with slaked lime the shells improved in thickness, but this did not occur when the lime

was given alone. It was not caused by the calcium caseinate of the milk, for a hen excretes more lime in a day than she could thus ingest in a week. This observation also throws light on the softness of the bones and the liability to strains in institution pigs, who are largely fed on material which is loaded with salt and has been thoroughly boiled. The production of mucous colitis by calcium stearates, which accumulate in the intestine in defective stasis, the observations of the Mellanbys on the development of puppies' teeth, and the work of Harriette Chick on rickets and osteomalacia in Vienna, are all illustrative of the intimate connection between lime and cell lipoids, and incidentally illustrate the known fact that the *B. suispestifer* easily attacks institution pigs. Mott's observations on the lipoids of the testicle connect up Blair Bell's work on the importance of calcium in the building of the protein molecule. Mott found that the lipoids of the testicle were exhausted in dementia præcox, but not in general paralysis nor by microbial intoxication, but Elliott found that those of the adrenal cortex rapidly disappeared under the latter conditions, and that the pneumococcus was the most toxic agent, the one in fact with which, among the acute specifics, anoxæmia is most prominent. Depletion did not occur in hyperpyrexia but did occur in severe hæmorrhage.

Liberation of cell lipoids and the development of atheroma occur under anoxæmic conditions. Hoppe Seyler showed that atheroma was common in states of defective oxidation. Meyer showed that oxalic acid poisoning was the result of cell anoxæmia, and Januschke proved that calcium was an antidote. Calcium tends to be deposited in parts where oxygen metabolism is low and the flow of lymph stagnant. Thus, Moore points out that bone is in this way developed from extravascular cartilage, that in the bones of old people calcium is in excess, and that it is deposited in the distal joints, the hands and toes, in gout, also in tuberculous foci, and in the large arteries if the vasa vasorum are stretched by hyperpiesis. He notes that it is associated with incomplete oxidation of proteins, and occurs as the very insoluble salts, urate, oxalate and phosphate. Klotz believes atheroma occurs as follows: The cholesterol free in the blood dissolves in the fatty acids, and then is deposited in the tissues by crystallisation, leaving the fatty acid radicles to combine with sodium, potassium and calcium. The soluble soaps disappear, and calcium, from its affinity for divalent acids and the tendency in a double decomposition for an insoluble salt to form if chemically possible, is deposited as carbonate, the phosphorus being excreted as soluble phosphates. Clifford Allbutt recognised that atheroma and arteriosclerosis occurred in presenile cases without hyperpiesis, a fact which alienists have always known. He first called the cases

involutionary and then adopted the less convenient term decreascent. He attributes the cause to a reduction of the quantity of blood without increase of blood-pressure, hence less oxidation. Bullock and Cramer found that calcium was necessary to determine the toxicity of the *B. Welchii* of gas gangrene and considered that it disturbed the relationship of the cell-protectives, that is, the lipoids.

It is acknowledged that tissue respiration depends largely on the action of oxidative enzymes. Kellaway found that want of oxygen, but not increase of carbonic acid, stimulated the production of adrenalin and hyperglycæmia, and that this occurred even after the splanchnics were divided. Buchner showed that in anaërobes oxygen exchange still went on. Bach and Chodat separated the oxidases into two classes, the oxygenases which take up nascent oxygen and form tissue peroxides, and the peroxidases which transfer these to oxidisable substances. Batelli and Stern showed that minced tissues had large respiratory powers, and Vernon demonstrated that the link between the oxidases and the oxidisable substance depended on the balance between the various cell lipoids, and that the respiratory capacity of tissues could fail apart from injury to the oxidases. He showed that heat and narcotics destroyed the oxidases by first unbalancing and then destroying the lipoids. Moore, however, attributes cytolysis more to the disturbance of the balance between the crystalloid and colloid elements, and says that the stability or state of aggregation of a colloidal suspension varies with the concentration of electrolytes in common solution with it. McDonagh's work on syphilis throws a good deal of light on many of the mechanisms of cell metabolism. The lipid-globulin particles form the internal or disperse phase, the phosphate and bicarbonate systems the external or continuous phase. Oxygen is normally produced by the action of ferric hydroxide protein upon hydrogen peroxide, hydrogen by the action of disulphide protein upon hydroxyl, so that the oxidase-reducase system depends upon hydrogen-ion and hydroxyl-ion balance, and this maintains the lipid-globulin particles in solution. The "middle piece" of the complement in fixation reactions is the oxidase-reducase system of the internal phase, the "end piece" is the hydrogen-ions and the hydroxyl-ions of the external phase, and the whole complement represents the balance between the two phases. But, whatever the manner in which these mechanisms work, it is clear that in both atheroma and melancholia there is in the blood-stream an undue amount of cholesterol, lecithin, phosphates and calcium, and as these are products of tissue-cell destruction there must be considerable loss of oxidative power. The blood becomes hypotonic, and in melancholia we recognise partial hæmolysis from the pigmentation; hæmolysis occurs in hypotonic solutions, as seen in the stained spinal fluid in intraventricular

hæmorrhage. More ammonia becomes fixed and less appears in the urine ; there is therefore a low carbonic acid tension and no hyperpnœa. Haldane showed that carbonic acid increased the depth, want of oxygen, the rapidity, of respiration ; in melancholia the breathing is hurried but shallow. He also showed that in neurasthenic soldiers, where the conditions of anxiety or depression are marked, the oxygen chamber did much good and improved exercise tolerance, although here the influence of suggestion must not be lost sight of. Thirty years ago Bevan Lewis showed that in melancholia more than the other psychoses not only was the hæmocyte count diminished, but the percentage of hæmoglobin per hæmocyte was lowered ; it may comfort the modern iconoclast to know that he headed his chapter "States of Depression." It is impossible to compare the acute anoxæmia of asphyxia, carboxyl poisoning, and the effect of high altitudes with the slow, chronic destruction of oxygen carriers in melancholia, but I understand that if aviators neglect the initial mental confusion which these states produce, and persist in altitude flights, great depression of spirits is one of the symptoms which next appear. Haldane and Priestly showed that acclimatisation to heights was rapid, and that the hæmoglobin count rose rapidly. But when an excess of bacterial toxines in the portal circulation lessens the formation and accelerates the destruction of the blood carriers, no such compensation can occur. This is why we see in states of depression the low blood tension, with diminished quantity of blood fluid, hypotonia, pigmentation, deficient urine with loss of urea and gain of uric acid and urates, shallow breathing, and general loss of muscular initiative. I have seen a case of fatal cut-throat where less than a pint of blood escaped from the severed carotid.

But all the above evidence has little bearing on the actual cause of the state of depression. This is, as we have seen, the sensory response to a muscular or muscle-vascular tone. It cannot depend upon the mere presence of hyperglycæmia or hyperadrenalism, for in diabetes it does not usually occur, although it is not uncommon towards the end, when cell destruction is heralding acidosis and coma. Kozawa showed that in diabetes the erythrocytes were increased. It is therefore possible that the presence in the sarcolemma element of voluntary muscle of unoxidised glycogen complexes may furnish the necessary afferent stimulus to keep up the sympatheticotonus. The adrenalin outflow is defensive, and there is some evidence that adrenalin acts as an oxidase. Sajous found that it promoted oxidation in the protein element of the leucocyte, and at Cheddeleton we have been able temporarily to abolish the state of depression by repeated large hypodermics of adrenalin, and to substitute for it a state of exaltive excitement. Adrenalin is destroyed in an hour or two, and no permanent good resulted ; when the administration was stopped depression returned. But it cannot be for nothing

that, with the gradual development of cerebral cortex in higher animals, we also find an increasing integration of two tissues in the adrenals, the cortex and medulla, derived from totally different sources and anatomically separate in lower phylæ. We are bound to ascribe it to a chemiotaxis between the cortical lipoids and the medullary adrenalin.

If depression depends upon an anoxæmia, can we do anything in the way of treatment by increasing the oxygen intake? We have of late been tentatively injecting hydrogen peroxide intravenously in normal saline. The results are encouraging, but much work must be devoted to the technique before such methods can form a part of routine treatment. At present somewhat alarming symptoms sometimes occur—partial collapse, cyanosis and rigors. Until the cause of these has been determined the results must be inconclusive, and probably acute oxidation of body cells with extensive hæmolytic is too drastic, and cannot be maintained for a sufficient period to do lasting good. In one case three injections in one day induced a normal mental state for two days, then followed by relapse. Here again the influence of suggestion must be borne in mind.

THE POSTURE IN MELANCHOLIA.

In some states of depression, especially where the emotion is strongly marked, a typical posture is seen, and is well described by Stoddart. The head and trunk are inclined forwards, with slight flexion at hips, knees and shoulders. The elbows are held rigidly to the side and flexed to a right angle. The corners of the mouth are turned down and the forehead wrinkled. The attitude is dependent upon a rigidity which affects the large proximal joints most, called by Stoddart "proximal rigidity." The voluntary trunk muscles are most affected, next the shoulders and hips, the elbows and knees less so. Co-extensive with the rigidity there exists slight voluntary loss of power over the affected muscles. The superficial reflexes are diminished, with flexor hallux response, the tendon jerks are increased but the excursion is small, the reciprocating tone of the opposing muscles is low, clonus is absent. This posture occurs in anergic and cataleptic stupor and in involuntary melancholia chiefly, and is of considerable interest to our thesis; it therefore demands a short summary of the views put forward to account for muscle phenomena. I suppose few physiological questions have raised more discussion than those concerning the nature of tremors, spasms and tonicity.

The nerve current is probably molecular in character, not chemical. Helmholtz taught that the pitch of contracting muscle was $19\frac{1}{2}$ vibrations per second, the first overtone of 39 v.p.s. being actually heard. Horsley and Schäfer showed that 8 to 10 undulations per second

reached the muscles in the tetanus of epilepsy. Piper found that 50 twitches per second were required to produce tonus; if fewer than about 30 reach the muscle clonus occurs. This is well seen in the two stages of the epileptic fit. Schäfer considers that during contraction the clear fluid flows from the ends to the middle of the sarcomere, but McDougall considers this is merely an optical effect. It would appear that the stimulus produces a difference in tension between the H-ions and the OH-ions, which by increasing acidity promotes energy production. It is admitted that this energy is ultimately derived from glucose, and from this glycogen-precursor lactic acid is produced, which Hopkins and Fletcher showed to be afterwards removed by oxygen, with the production of CO_2 . The lactic acid is diffused away from the point stimulated, but if a second stimulus arrives before this can happen a summation occurs, so that ultimately a succession of subminimal stimuli results in contraction. The higher the local P_H the faster will the lactic acid diffuse away. If the P_H is too far removed on the acid side of the optimum the refractory period will occur. Thus Mines accounts for these two phenomena.

Boeke showed that fine nerve filaments were distributed from the anterior horn cell to the muscle plate, and neurofibrils leave this to run parallel to the striped muscle fibre, ending in the anisotropic disc. The sympathetic fibres from the grey rami form an unmyelinated plexus on the muscle fibre, the neurofibrils ending in the sarcoplasmic end-plate; as a rule the two sets come from different cornual levels. Langelan believes that this difference of distribution accounts for tonus being automatic, controlled by the sympathetic, and arising in a proprioceptive arc; if the cortical influence prevails the twitch is dominant. Ranson agrees that myotonia results from the sarcoplasmic connection, voluntary movement from that of the sarcostyles. Charles Bolton showed that there was no connection between the flexor tonus and atrophy in myotonia atrophica, for the former was absent in the lower limbs in cases where the latter was marked. Kleist thinks that for tonus there is a cerebello-rubro-thalamo-frontal afferent path and a fronto-pontine-cerebello-dentate-rubral efferent path. Ramsey Hunt believes that cerebellar intention-tremor and ataxia are both forms of cerebellar asynergia. He cites cases to show that in juvenile and senile chorea there is a progressive degeneration of the large cells consecutively in (a) globus pallidus, (b) putamen, (c) caudate; and that the signs are (1) in early cases tremor, often coarse, not intentional, with emotional rise, (2) in late cases slow movements, rigidity, festinant gait and prothotonic posture. The paralysis now involves both associated and automatic movements, and at last all the voluntary muscles are rigid. In Huntingdon's chorea, on the other hand, the large motor type of cell is preserved, but the small, neostriatal cells are destroyed wholesale, and the short, internuncial fibres degenerate. He connects the pallidal mechanism with the sarcoplasmic element of muscle. Wilson describes a familial degeneration of globus pallidus where involuntary tremors, hypertonicity, contractions and emotional exaltation occurred. He says

that for the production of either tremors or athetosis the pyramidal tracts must be partially intact, and notes the frequency of athetosis after cerebral lesions; he therefore infers that tremors may be due to impairment of the lenticulo-rubro-spinal path, athetosis to impairment of the cerebello-rubro-thalamo-cortical. Wilson and Walshe describe two cases of frontal and prefrontal tumours with tonic innervation in which, after operative removal, atonic hemiplegia remained. No sensory changes were present.

Sherrington has thrown much light on muscular tone and posture. He shows that the spinal cat will often stand, but that the decerebrate cat always will; if the head is pressed down the forequarters sink and the hindquarters rise, if the head is pressed up the opposite occurs. He points out that Magnes and de Kleijn proved that this was due to labyrinthine and deep neck nerve influence. He shows that standing is a postural reflex, the muscles toned up to every position, and that similar reflexes exist in the normal stomach, abdominal walls, bladder and sphincters. Thus we see how, when the kidneys are actively secreting, a small bladder distension causes discomfort, but if slow secretion occurs a large amount of urine may be tolerated. If the decerebrate animal be laid on its back vestibular reinforcement of tone occurs. The position is not now postural but defensive. The spinal reflex keeps the muscles toned up, but the centre for reflex standing is behind the anterior limit of the mid-brain and in front of the posterior end of the pons; it is not in the cerebellum. Reflex tonus shows (1) a low degree of tension, (2) great tonic endurance, (3) easy interruption of postural contraction by inhibitory influences, (4) adjustment to equality of tone in any position of lengthening or shortening. The energy expended in maintaining posture is so small—stated by Parnas to be $\frac{1}{100000}$ of that expended by tetanised muscle—that the supposition has been put forward that one kind of motor impulse sustains in the muscle the hydrogel state, another produces the hydrosol, or that the resolution of the hydrosol is brought about by indirect afferent impulses. This brings us back to the theory of the tonic sarcoplasmic and the contractile sarcostyle elements, as developed by Botazzi, for in the case of the voluntary mechanism the same muscles are used for both effects.

Walshe applies Sherrington's findings concerning postural reflexes and defensive acts to the signs found in spastic paralysis. He shows that in the lower limbs the tonic extensor spasm is static, and the reflexes represent the flexor or phasic type, which includes the so-called "extensor" hallux response of Babinski. The pyramidal system innervates the flexors and extensors, while the extrapyramidal system innervates mainly the extensors. In pyramidal injuries both reflex systems are released from control, and spastic extension appears. If the extrapyramidal path also is interrupted the reflex activity of the extensors is abolished, and may allow spastic flexion. The reflexes are the result of the action of spinal centres, and are defensive; the spasticity is due to the mid-brain centres, probably in the red nucleus, and is postural. In the upper limbs spastic extension does not occur, but spastic flexion. This is because in man the arms take no part in the maintenance of the erect posture.

Ramsey Hunt extends Boeke's and Langelaan's findings, and would

have it that there are two complete muscular systems—the paleokinetic with its fibrils extended to the sarcoplasmic elements, its fine non-medullated fibres running right up the cord, and its motor centre in the striate body; and the neokinetic, or ordinary corticopyramidal, whose larger white fibrils extend to the sarcostyles. The former regulates the static and postural forms of mobility, the latter the kinetic. He quotes evidence for the existence of a paleocerebellum and a neocerebellum, and also draws attention to the distinction between the spasticity of cortical lesions and the rigidity of striospinal, to the different form assumed by the reflexes, and to the fact that the neokinetic affects terminal joints and the paleokinetic proximal. There is a different regeneration period for the two systems in the peripheral nerves, analogous to the difference between protopathic and epicritic on the sensory side. Head states that cases of postcentral injury may show hypotonia provided the pyramidal tract is intact, and that underneath the massive spasticity of cortical or subcortical injury hypotonia may be found if both afferent and efferent mechanisms are disordered. It is generally admitted that hypertonus requires a not completely destroyed pyramidal system, for after the deep injury produced by the removal of cortical tumours both hypertonus and its psychical reinforcement, “intentional perseveration,” disappear. But in parietal gunshot injuries without motor paralysis we occasionally come across cases showing nutritional changes; the hand is delicate, the fingers tapering, the skin smooth, the nails translucent and thin, the muscles small; whether we call such a condition “disuse atrophy,” or give it any other name, it points to interference with the posterior root ganglion element in sensation. Again, in very old hemiplegic cases, especially when the dementia has become profound, spasticity disappears, and only fibrous rigidity remains. This element in muscle belongs to the protopathic side of sensation; also it is part of the function of the involuntary nervous system, especially the sympathetic, *i. e.*, the system which deals with vessel tone and the sarcoplasmic element in muscle, and which, as seems probable, is represented in the cerebral cortex. Sometimes loss of the sense of passive position and movement was in Head’s cases dissociated from hypotonus, although more commonly both disappeared together. It follows, therefore, that in some part of their course the paths run separate. The involuntary nervous system is centred in the thalamus on the afferent side and the globus pallidus on the efferent, and the thalamocortical connections are mostly by way of the internal capsule. I am not prepared to guess what the course of these nutritional fibres is. I once thought it possible that they might reach the cortex along the central arteries, but this is unlikely—there is no known instance, I believe, of pre-ganglionic fibres being so conveyed.

Putting together the above evidence in the light of Head’s work on the functions of the thalamus it is not difficult to come to certain conclusions. The functions of the involuntary nervous system are an elaborate type of automatic movements necessary for the existence of the animal, especially for its defence. For these reflex movements consciousness is not necessary, but the elements of sensation elaborated in the thalamus, which if produced into consciousness evoke certain

specified feeling-tones, *are* necessary. This system is subordinated to the cortex in higher animals, and in its turn controls the bulborubral and cerebellar centres, which are responsible for postural tonus, and, of course, the spinal centres, which control the lower organised defence reflexes. In melancholia the cortical control is removed in part, and the thalamostriospinal system asserts some of its primitive functions. One of these is the posture seen in some of the cases we are now considering. The afferent and efferent paths are those used by the sympathetic fibres; and the manifestations are merely an extension to the sarcoplasmic element of muscle of the phenomena of sympathetico-tonus, the primitive elements laid bare by partial abolition of cortical control. It is a posture nearly the same as the senile, but somewhat modified. Now, what is the inward meaning which it bears? There are, it seems to me, two explanations of the senile defence mechanism. Either the old man of primitive ages adopted a bent attitude to show a possible rival from afar that he was not a competitor in the sexual contest, or he did so because his blood was running cold. I had hoped that some help might be gained from the burial posture, for in all times death has been in human thought associated with sleep. There is an idiot in one of our wards utterly devoid of sense, unable to stand or speak, reflexly wet and dirty. When cold this boy lies curled up, all joints flexed and adducted. You may say, "He feels cold." But consciously he feels nothing, he has much less sense than a fish. The position is thalamostrial in its entirety. If held up in the four-limb position of an animal standing he displays postural rigidity, the legs being stiffened, abducted, extended at the knees, but at the hips flexed to an angle of 120° . The hands and arms are flexed, in correspondence with the growth of cortical representation in the arm area. Incidentally, it was because this boy cried after a full meal that tuberculous peritonitis was first discovered. Prof. Haddon informs me that climate is not associated with the burial posture, that predynastic Egyptian burials were flexed, but that the old Nordic row-graves show an extended posture. The sitting burial posture, as described by Rivers in the earlier Polynesian culture phase, is a much later development than that to which I now refer, and is connected with religious beliefs. The other primitive influence on burial posture was over-lordship, a servile race being buried in an ignominious position, a dominant race in a dignified, *i.e.*, supine and extended, fearing neither cold nor a night attack. The flexed posture in sleep protects the vital organs of chest and abdomen, both from cold and from wounding. I think, therefore, that the posture of depression is allied to the senile, is probably produced by the same physiological mechanism in the thalamostrial system, and that it is defensive. But let it not be thought that these postures have all the same meaning. They are merely, in each case,

the remnant of the climbing habits of our arboreal progenitors, and their allied descent can be traced in the semi-erect gait of the modern ape.

THE FUNCTIONS OF THE CEREBRAL CORTEX.

So far I have said little of the higher cerebral functions which are liable to be disturbed in "involutionary melancholia." Little as we know of cerebral processes, still there are a good many indications as to comparative probabilities, and it would seem desirable to attempt to correlate the fragments of knowledge which we possess.

It is a common fallacy that a neurone can at one and the same time discharge and inhibit. A mountain of false conceptions has arisen round the laboratory process of electrical stimulation, by means of which it would appear that a motor neurone can initiate a voluntary contraction, and that, when not discharging energy, it is at rest. Electrical stimuli can, of course, overwhelm natural processes and produce muscular contraction, but by a crude, coarse, foreign factor, unknown to normal conditions. It appears diametrically opposed to all we know of nerve energy to suppose that two such opposite processes as activation and inhibition can go on practically simultaneously in a neurone, or at least can reverse themselves many times each second, and at the same time to profess to believe that both processes are the result of chemical action; all we know of the building-up of the complex molecules of which the body cells are composed seems to indicate that vital processes occur by successive steps, each of which occupies a definite, perhaps even a measurable unit of time, and that the like occurs when these molecules are broken down. It is more reasonable to suppose that only one kind of energy is developed, and that action or inaction results according to whether there is absent or present that biochemical influence which we call inhibition. McDougall, in this country, has drawn attention to this as being the only possible conception, and has worked it theoretically into the "neurin" hypothesis and his "drainage" theory of the nature of inhibition.

As has often been said, all life is a reflex, and tone is a property of every reflex system. In every cell there exist molecules of extreme complexity, but a general common principle is at the basis of their construction. There is a more or less stabile moiety consisting of conjugated proteins, that is proteins composed of nucleic and aminoacid-body precursors, and a more or less labile moiety, largely of a carbohydrate nature, the two being adsorbed to one another. The ultimate precursor of the carbohydrate unit is for practical purposes oxygen, and the ultimate end-product is carbonic acid. By the Nile-blue process the formation of oxygen can be actually observed at the

synapses, and afterwards its absorption in the nascent condition by the cells. The changes in cell constitution are brought about by two classes of specific enzymes, oxidases and reducases; while a third class, the deaminases, acts mostly on the protein element. These enzymes have specific precursor zymogens. There are thus continually going on in the normal cell the comparatively slow, side-by-side, step-by-step processes of anabolism and katabolism, and these are regulated by the ordinary laws of enzyme action in regard to reaction velocity, optimum temperature, reversibility, etc. The general result of this is that the cell would be continually producing and discharging heat and energy were it not for the interference of two other processes—reinforcement and inhibition. Reinforcement is regulated by the laws of enzyme action, and results both in increased activity of the individual cell and in the co-ordinated activity of groups of cells; inhibition depends on the action of antenzymes. In neurones, as in other body cells, energy and discharge tend constantly to go on, and on the motor side action would constantly result were it not for the presence of inhibition.

It is clear, however, that there must be some ultimate activator. This is found in the constant stream of afferent impulses which are flowing in, as the result of stimuli from the outside universe impinging upon the end-organs of the sensory projection systems. These stimuli are conscious and unconscious, and the unconscious outnumber the conscious as a million to one. Their ultimate energy is derived from the electrons reaching the earth from the sun, and if they ceased to affect our sensory projection systems life would be impossible. Sleeping or waking, from conception to dissolution, the sensory cells receive a stream of afferent impulses which continually pass in a forward direction to the motor side. But these impulses are liable to sudden alterations in intensity, and their balance is ever varying; consequently one set or another are ever taking some path of least resistance and breaking down the fence of inhibition which is erected at the synapses. When a path is opened to the motor side activity results. All motor phenomena are reflexes—the withdrawal of the foot from a prick, hypertonicity in the spastic cord, the psychomotor unconscious postures of mental disorders, normal “voluntary” acts and the highest intellectual processes of creative thought—all are but reflexes, even though some of the afferent stimuli may have lain chemically dormant in the unconscious memory for centuries. Deliberation is merely psychic inhibition, determinism is a law of nerve energy; no thought or movement occurs other than what was absolutely inevitable under a given set of circumstances. Free-will is a psychological figment, while the world-old tag, “Every woman has her price,” is but the somewhat cynical application of an universal truth.

The activity of body cells is regulated by two mechanisms. One, the older and slower, is hormone action, whereby enzymes from endocrine and other glands circulate in the blood-stream; the other, newer and quicker, is nervous action. The older is still largely used in the primitive processes of development and digestion, the crowning edifice of the latter is the cerebral cortex. All processes of normal cell change depend upon a fine adjustment of both agencies, which mutually regulate one another in every varying phase. I will not say much about the decerebrate and spinal dogs in Goltz's and Sherrington's experiments, both of which showed evidences of emotion, but about the latter there are two points not hitherto mentioned—first, that the hormone influence was left untouched, and second, that if the lower cervical cord was transected the phrenics were presumably intact, and the phrenics have numerous sympathetic connections, and are far more than merely motor to the diaphragm.

The whole nervous system is, as Hughlings Jackson first demonstrated so many years ago, divided into a series of physiological levels, each of which is normally inhibited by the one directly above it. We are becoming accustomed now to skip a level, for the pyramidal tract acts directly on the lower neurones, and, as we shall see later, the psychosensory acts on the psychomotor. This inhibition acts through the afferent side of a lower level, so that the pyramidal fibres are distributed, not round the motor, but round the sensory cord cells, and the anterior corticothalamic tract acts on the ventrolateral nucleus of the thalamus, not on the striate body. There are the spinal level, the rubrobulbar, the thalamostriate, and at least three or four in the cortex. But there is only one main afferent pathway, and this is connected with the efferent paths at each level, so that if higher inhibition is removed each level will act in its own appropriate manner. At every level there is splanchnic as well as somatic representation. As we ascend the phylogenic scale functions which are of special use in the developmental environment of the animal tend to move towards higher levels, and those of less constant use tend to be crowded out, but the mechanism of each primitive function, although it may rarely be displayed, retains its integrity intact. Thus the phenomena of the automatic bladder revealed in Head's carefully nursed cases of spinal transection by gunshot wounds display the last defences of the human organism against threatened danger, and the defence phenomena of the state of depression reveal the functions of the thalamostriate system deprived of some, but not all, of the cortical inhibitions normally imposed upon them.

From the most primitive type of vertebrate onwards the thalamencephalon has always been a reflex centre, and from a very early stage the olfactory lobe has been a part of the prosencephalon. The centres for

sight were for long attached to the midbrain; concerning the kinæsthetic area less is known. The pyriform area, which resembles the non-mammalian cortex in the sense that it has no supragranular layer, is, within these limits, highly developed, and is termed by Elliott Smith the "archipallium." So many lower mammals are macrosomatic that the large representation of smell is necessary, and in man the architecture has, in accordance with developmental precedent, been preserved, although the functions have regressed. If we examine the cerebral vesicle in such a transition type as amphioxus we find a dorsal and a basal mass of "giant" cells, from which giant fibres run through the spinal cord in dorsal and ventral groups to spinal nerves. This is the prototype of the afferent and efferent cerebrospinal system of the craniata. Passing to a higher type, a well-developed thalamencephalon appears in the dogfish, with huge olfactory lobes projecting from the anterior end and a small cerebral hemisphere between them. The optic lobes are pouches from the mid-brain, the auditory centres are in the hind-brain close to the cerebellum. There is a small but well-developed spinal cord from which giant fibres have disappeared, only to appear again in higher fishes in connection with the equilibrating vestibular mechanism to the tail muscles. The cerebral hemisphere in the dogfish seems to be entirely olfactory, the somatic sensory and motor mechanism being lower in the mesencephalon. In amphibia and reptiles the cerebral vesicles are long and narrow, well covering the thalamencephalon and devoid of a corpus callosum. The anterior portion is still olfactory, but the posterior is probably kinæsthetic, although in position temporal. The optic lobes are still separate, placed posteriorly, but possessing a commissure. In birds the cerebrum is large and rounded, the corpus callosum is present, the optic chiasma and lobes small; sight has become cortical. The olfactory lobe is insignificant, but the cerebellum begins to attain a fair size. The so-called "voluntary" motor tract from the cortex is through the striorubral system and basal ganglia. In many lower mammals the large limbic lobe is placed inferiorly, the temporal, probably largely devoted to sight, posteriorly, and the frontal is narrow and pointed. The pyramidal tract is present, but Betz cells have not appeared in the cortex.

Betz cells.—These "giant" cells in the human precentral cortex are homologous to the cells of Meynert in other parts, and give rise to coarse fibres. They are derived from infragranular elements and are situated in the lower cortical layers, but send long dendrons practically to the surface, so that their area of collection is extensive. A more detailed study of these cells would probably add considerably to our knowledge of the system followed by neurones generally during their process of evolution. The general rule is that the further a cell has to transmit, the larger the body, the fuller the chromophile elements and the coarser the axon. But, as Mott says, the number of fibrillæ in the axon is the real determinant of coarseness, and this depends upon how

many muscle or other fibres the cell has to act upon at one impulse. Hence these large axons always send out many collaterals during their course. Bolton points out that the infragranular layers are almost alike in all mammals, and the differences, as we ascend in the intellectual scale, are supragranular, pyramidal or associational. But as it is not easy at all times to recognise the granular layer, different interpretations, many of them wrong, have been put upon the appearance of the cortex. Kolmer found no Betz cells in the crucial area of bat, hedgehog, rabbit, mouse, rat, guinea-pig, ox, or pig, but Campbell considers the large cells present in the pig to be homologous. I am not surprised that typical cells do not occur in most of these animals, but the rat is a very intelligent animal, accustomed to apply both hind and forefeet to discriminating uses other than mere locomotion. Anyone who has tried to hit a rat with a stick or seen it moving objects with the forepaw will acknowledge that it displays a quick resource in situations where phylogeny can give it little assistance, proving that it is endowed with a psychomotor mechanism of a fairly high order. Dr. Bolton has kindly investigated this point and informs me that the cortex of the rat is well developed, but is devoid of the masses of embryonic cells which confer upon the cat or dog the potentiality of further evolutionary progress. What I take to be the mode of development of a long connecting tract like the spinal cord is that it evolves from the purely segmental arrangement in three stages. First, fibres develop from the encephalon downwards, growing gradually longer until the whole cord is connected up, those neurones in one cortical area sending axons more or less strictly to one somatic area, at first over only two or three segments. Next, as the need for greater co-ordination is felt, the "giant" cells develop, their stout axons containing many fibrillæ which become distributed by collaterals over many segments, although the parent cells are still retained in one cortical area; this gives a widely diffused "axon reflex," but not great specialisation of function. Lastly the stout axons subdivide, as do the parent cells, of course in the embryonic stage, and each fibril receives a medullary sheath, supplying only a few lower neurones. But the break-up of the giant cell allows of ample cross-representation, so that finer movements of parts of a muscle may be initiated from several cortical areas at once. This theory is supported by a consideration of the Betz and Meynert cells in different grades of development and in different cortical centres. The Betz cells are more abundant in and near the fissure of Rolando, and fade away anteriorly, disappearing in regions which we know are more highly specialised, such as the intermedioprecentral, until in the prefrontal cortex the axons are exceedingly numerous and at the same time delicate. Long ago Bevan Lewis described various groups of Betz cells, and Campbell, from cases of old amputations, was able to show that each of Bevan Lewis's groups is connected with movements round a joint. The following groups are recognised: (1) On the mesial surface of the hemisphere to the foot; (2) at the upper end of F.R. to the ankle and leg; (3) opposite the lower end of the superior frontal gyrus to the knee and thigh; (4) just above the genu of F.R. to hip and buttock; (5) immediately below genu to shoulder. Opposite the genu there are none, the need for small and specialised movements

never having been felt in the trunk, so that the cells here have never advanced beyond the first stage. Below the genu there are two ill-defined groups for the elbow and wrist, where the cells are in process of sub-division. At the lower end of F.R. the Betz cells have disappeared and the pyramids in stage three have taken their place, a development in accordance with the extreme motor specialisation required for speech and for head and eye movements. The areas for the former have advanced far forwards in the third frontal gyrus, almost to the prefrontal area; those for the latter have spread all up the anterior intermedioprecentral region, where they are conveniently placed for direct connection with fibres from all parts of the limb areas. We find, therefore, many Betz cells in the leg area, where finer movements are not required, few in the arm area, where movements are becoming more and more highly differentiated, none in the neck and head, where highly organised psychomotor representation has long been in use. In the prefrontal area there never were any "giant" cells, highly intellectualised movements having existed there since the cortex was first formed; the cells are smaller and the fibres fine. Betz maintained that there were more large precentral cells in the right than the left hemisphere, showing a more backward stage of development, also that there were more in adult life than in youth, showing that in childhood "common sense" in movement is as yet imperfect. Campbell estimates that there are about 25,000 in each hemisphere in man, and 13,000 in the ape. If only 150 were used for a small movement the possible combinations would run to over one hundred places of integers.

Layers of the cortex.—No one has done so much as Bolton to demonstrate differentiation of function in the cell layers of the cortex. Recognising that the small, medium and large supragranular pyramidal depended for their relative proportions on axonal longitude, he has endeavoured to simplify previous classifications. The first is the outer fibre layer, second pyramidal, third granular, fourth inner fibre, fifth polymorphic. The granular is receptive and transforming, the pyramidal the association layer upon which *par excellence* psychic processes depend, the polymorphic is the primitive layer relegated to the performance of lower animal functions. It is the pyramidal which in under-development or regression varies directly with the depth of amentia or dementia. These fine distinctions are very well as a general guide, but we know that all layers are concerned in every process, and in fact some of us would be glad of a few more layers in our cortex. The pyramidal is the last to develop and the first to regress; it reaches its highest stage of development in man. That it is associational is to be admitted, but further, it is a purely intracortical layer; its axons never go beyond the cortex. The smaller cells connect with areas lying in propinquity, the larger connect with those lying further away. This association is intelligence, and inhibition, and judgment and everything else which we call mind. And the more complex the association tracts, not only in each centre but between

centres, and the more the paths are multiplied, the greater the intelligence.

The granular layer is entirely receptive, and probably receives and transforms impulses from both within and without the cortex. The coarse horizontal fibres seen in various paths are the afferent axons which fibrillate round these small intercalary granular cells. This layer is especially well-developed in the sensory projection centres, least developed in the precentral.

The polymorphic layer is the layer most apparent in lower mammals, and Watson describes its development in various species; as the intelligence grows, first the granule, then the pyramidal layer, differentiate from it. In man the destination of the polymorphic axons has not been traced, but it is a fair assumption that it is the layer which connects the cortex with older, that is, extracortical parts of the central nervous system. Bolton shows that this layer remains almost normal in idiots and advanced demented. In the latter the persistence of childhood memories in various mental states may thus be accounted for, but the memories of the idiot are entirely ancestral, and take the form of reflexes and automatic postures, functions which are almost purely thalamostriate, but which probably also, as does the posture in melancholia, require the assistance of the lowest layer of the cortex. I think there is little doubt that the thalamic radiations, which go to all parts of the cortex, are in part the axons of these cells, but the difficulty is to decide whether fibres pass in both directions to every part of the cortex—that is, whether both motor and sensory areas possess both efferent and afferent connections. Probably as regards the cortex at least this is the case.

Pre-Rolandic cortex.—The old discussions about psychomotor localisation have now died away, and it is recognised that the precentral area is purely motor. The chief distinguishing features of this area, apart from the Betz cells, are the prominence of the fibre wealth, the poor representation of the granular and the great development of the pyramidal layer. I think this postulates a limitation of function to acting mainly as a final collecting station for parts devoted to more highly intellectualised movements, and also that purely afferent stimuli are collected from a small area only. I believe the coarse horizontal fibres to the narrow granular layer come from the post-central area, and are the medium for the immediate transference of certain classes of somatic afferent stimuli there collected—in fact they are the fibres through which inhibitory restrictions upon movements terminally act. On the other hand the axons from the pyramidal layer appear to run in every fibre layer, zonal, radiary, interradiary and subcortical, and the distribution must be very wide. Many of the coarse, horizontal fibres seem to run, from the intermediate postcentral or even further back, right through

to the intermediate precentral. As we pass forwards to this latter area the fibres gradually become finer, the cells tend to be smaller as differentiation of function becomes greater, until in the prefrontal area the architecture is very fine and the cross-paths intricate. As to the polymorphs it is probable that the axons compose the fibres of many tracts to lower physiological levels. Thus the precentral may have a connection with the sarcoplasmic elements of skeletal muscle. The anterior corticothalamic tract seems to come from both precentral and intermedioprecentral nuclei. The intermedioprecentral is the chief seat of reasoned movements, and several long association tracts have been described by various observers as having their origin in this locality and are mentioned by Campbell, the frontopontine tract of Flechsig, the tapetum, connected by Déjerine and Muralow with the visuopsychic area, the superior longitudinal band said to connect with the auditopsychic area, the uncinate band with the rhinencephalon. It is likely that the presence of the great occipitofrontal fibre bands connecting chiefly the eye and hand, which run between the visuopsychic and intermedioprecentral areas, have been by many looked upon as evidence of two great intellectual inhibitory centres in the parietal and frontal regions. The posterior boundary of the motor regions is rigidly fixed by the fissure of Rolando, but anteriorly each area grades into the next as development advances, and no doubt individual variations are large. When we reach the prefrontal area it may be that actual muscular results are not represented, but that the memory of high-grade movements, and the intellectual capacity for doing things in the most economical of various possible ways, and of profiting quickly by experience, are there chiefly represented. I do not see that any evidence hitherto produced in favour of an inhibitory centre presiding over all cortical manifestations will stand analysis. The real releasers and inhibitors of movement are the post-Rolandic projection and association centres, not acting through one centre but as the result of the balance of all intellectual afferent stimuli. I should like to quote a case in point. A friend of mine about eighteen years ago was thrown out of his dogcart and fractured his left frontal bone. Sepsis led to operation. Before trephining there was double vision and a difficulty of recalling technical terms. When the dura was opened pus was found on the arachnoid, the cortex being red and pulpy. Ten days later no mental defect remained, no loss of memory or attention, of business capacity, judgment, or any of the higher intellectual faculties supposed to reside in the prefrontal region. No subsequent loss ever appeared. Now, a case like this makes one pause; it is usually explained that the injury in such cases was not severe enough, that complete recovery of cortical tissue occurred. I do not believe it; destroyed cortical tissue is not repaired, but the

associations in this region are so exquisitely complex that functional substitution is easy. Nevertheless I admit that it would be difficult to prove that great fronto-occipital inhibiting centres did not exist. The fibres would be presumably in the third stage of neuronal evolution, very fine and numerous, the cells of moderate size, closely packed, and rich in chromophil elements.

Post-Rolandic cortex.—The postcentral is the collecting station for the afferent fibres conveying certain kinds of bodily sensation. Head shows that these are only such as demand discrimination, memory of passive position and movement, the power of exact localisation, comparison of degrees of temperature and touch, and certain afferent elements of muscular tonus. Crude primary sensations, such as heat, cold and pain, find no place. The localisation of pain in the cortex, although this function is registered in the thalamus, might not present great theoretical difficulty, for pain can inhibit all other sensations, and in thalamic and peripheral lesions moderate degrees of temperature may be so interpreted; it could therefore be assumed that pain was registered in the various memory centres. But there are many difficulties in accepting this view, for the cortex is anæsthetic, lesions there never cause pain, and no cases of projection loss involve its presence. When we come to heat and cold, with their specialised end-spots in the skin, the difficulties are greatly increased. On the other hand in unconsciousness there is no pain, and although Goltz's decerebrate dog reacted to stimuli calculated to be of a painful character more readily than a normal animal, yet it had no pain memory, whereas lower mammals and birds, whose cortex is practically infragranular in character, learn and remember painful experiences readily. We cannot remember pain, but only the percepts which accompanied it. Therefore what connection, if any, these crude sensations have with the cortex remains completely unknown. The granular layer, as in all sensory projection centres, is strongly represented, and the coarse fibres which constitute the posterior thalamopostcentral tract end here, although many of them seem to run on to end in the intermediopostcentral area. It would appear that there is no rule in the cortex that all communications between centres must be by way of the primary projection centre; on the other hand there seem to be a considerable number of paths available for every stimulus, and it is this free network between the psychic association centres which constitutes the higher memory, and, when it exists to an unusual degree, intellect. The pyramidal layer associates with the intermediopostcentral and probably other post-Rolandic centres. The polymorphic layer is rather sparse, and the large, solitary cells, representing the second stage of development, are found in the leg area at the vertex. The axons probably go entirely to the precentral granular cells. The hand is very largely represented certainly in the

intermediopostcentral, and Head's cases show that the representation is not segmental, but that, in injuries in this region especially affecting the hand, the foot is next to suffer through extension of area, not the arm or shoulder.

The special points to be noted about the visuosensory area are the reduplicated granular layer and the poor development of the pyramidal layer. Bolton showed that this was the end-station of the visual path from the colliculi, the coarse fibres of which may be seen running horizontally; also that the outer of the two layers corresponds to the thick granular layer in the visuopsychic region, about half the cells being lost in congenital blindness. Mott considers that a portion of the coarse fibres come from the opposite occipital lobe by way of the splenium, in connection with the half-representation of the visual fields implied in stereoscopic vision. The pyramidal layer is poor because it associates only with the visuopsychic region. In the auditosensory, on the other hand, the pyramidal layer is well developed, and Campbell states that the polymorphic layer contains no Meynert cells, few pyramidal and many stellate. The coarse fibres of the auditory path are distributed to the well-developed granular layer. Bolton considers that the want of symmetry between the visuosensory and the auditosensory architecture involves a difference between the large number of the visual and the small number of the auditory images which are possible, the visual stimuli being largely concrete, the auditory, owing to the close connection with speech, much more symbolical.

In the visuopsychic and audiotpsychic regions the granular, and especially the pyramidal layers are well represented, and the freest association occurs between them and the intermediopostcentral, probably by fibres running both ways. The interactions of these three centres constitute the æsthetic side of mind, and a summation of stimuli from them, forming what Head calls a "schema," is necessary for breaking down a path to the efferent side, whether this results in muscular movement or its psychic correlations. A constant succession of such schemata from the intermediopostcentral cortex is necessary for even the simplest co-ordinated movement—that is, no regulated movement can occur unless the immediately prior position of a limb and the immediately prior state of contraction of every fibre of every muscle have been exactly registered. These schemata are not purely visual or sensory, but are integrated outside consciousness, and only the final result is appreciated. The polymorphic layer in all the sensory projection areas, and probably in the sensory association areas also, goes to make up the thalamic radiations, which are distributed to all parts of the cortex. This theory goes far to explain Watson's contention that this layer is associated with the instinctive memory in lower animals.

It is evident that the cerebral cortex represents, in its striation alone, two distinct physiological levels. The pyramidal layer controls the psychic aspect of mind, while the polymorphic layer endows with a certain degree of consciousness the automatic acts of the thalamostriorubral level. In different regions the pyramidal layer is seen in several stages of evolution, until in the prefrontal the cells become fairly small, of even size, and densely packed, while the fibres are delicate and intricate. The thalamostriorubral system has reached its zenith and is now regressing, but in certain aspects of disease displays its autonomy when stripped of cortical control. In like manner certain sensory projection areas are regressing, and with the adoption of stereoscopic vision man has definitely plumped for a visuoæsthetic personality. Smell, so important in some lower animals, is for practical purposes gone, and with it taste is reduced to a low ebb. So far these specialisations seem to have followed physical laws of projection. We can imagine an animal capable of using the waves of ether as a means of auditory discrimination and memory, but we cannot imagine a dog able by smell to recognise a companion in Australia. Whether man will eventually throw hearing overboard it is hard to say, but before that happens the afferent aspects of speech must be profoundly altered. Meanwhile the psychic elements of sensory discrimination interlaced with those of sight are the determinants of our existence. It seems probable that with the constant enlargement of the frontal, and especially the parietal regions of the cerebrum, the centres for taste and smell are gradually being pushed down among the basal ganglia, following the fate of pain, heat and cold. The microscope, the telescope and the radiogram are instances of how our psychomotor cortex can come to the assistance of our psychosensory, and perhaps convey more than a hint as to the direction in which future evolution may proceed.

THE CORTEX IN DISEASE.

To give a complete bibliography of the names of workers who have contributed to our knowledge of the cerebral mechanisms would not only overweigh an address such as this, but would give an altogether false impression of my own industry. It must suffice to mention Deiters, Hitzig, Meynert, Vicq d'Azyr, Nissl, Gennari, Golgi, Weigert, Flechsig, Ramón y Cajal, and the Vogts abroad. When we turn to a list of our own workers it is a source of gratification to remember that nearly all have been members of this Association. First I must place Bevan Lewis, who, with Clarke in 1878, was one of the first to correlate comparative histological structure with function. From his beautiful drawings of the cortex and his accurate description of the nests of Betz cells subsequent workers have taken their start, nor have his claims to

priority been at all times fully acknowledged. His descriptions of mental states, written over thirty years ago, are masterpieces of delightful English, although his arguments were necessarily more psychological than is now permissible. Then follow Turner, Campbell, Bolton, Watson, Orr and Rows, Mott, Head. It is impossible to mention their individual publications, but their conclusions are our milestones to-day.

The cranium is a closed box and the quantity of fluid contained therein is practically constant, although the proportions of arterial blood, venous blood and cerebro-spinal fluid are constantly varying. In health the last-named is minimal in quantity. Hill and Bolton record numerous observations on the laboratory animal and cadaver respectively, which help us to understand the position. As the cerebro-spinal fluid is secreted by the choroid plexuses of the ventricles it gradually ebbs away through the foramen magnum into the spinal subarachnoid space. Sudden cerebral compression by injection of fluid will stop this by driving the brain-stem downwards, and so plugging the foramen. The brain rests on the floor of the cranial fossæ like a lump of putty, and what cerebro-spinal fluid cannot escape into the spinal subarachnoid space spreads out over the convexity of the hemispheres, and in the end escapes into the superior sagittal sinus, through the tufts of pial tissue called Pacchionian bodies, which lie in lateral lacunæ in the bone on either side of the sinus. These tufts are absent in the lower animals and in children, and it would appear that their increase in size as age advances is the ordinary pial proliferation and bone absorption in response to the toxæmic chemical condition of the fluid. The veins open direct into the sinus without valves, the anterior nearly transversely, the posterior in a forward direction against the blood-stream. The manner in which the venous blood and cerebro-spinal fluid move up against gravity and into the sinus is this: At every cardiac systole a positive arterial impulse is transmitted to the brain, momentarily raising the intracranial pressure by the introduction of arterial blood. Instant compensation occurs and some venous blood enters the sagittal sinus. At every inspiration a negative pressure is established in the chest and venous blood flows down the internal jugular vein, partly emptying the sinuses. The veins are thin-walled and can respond to increased pressure by collapse, but the sinuses are isolated by strong bands of dura mater, and so negative pressure can empty them. At each positive pressure phase—whether of cardiac systole or expiration, a little cerebro-spinal fluid is lifted higher up the convexity of the hemisphere. At each negative pressure phase very little of this runs back, for the subarachnoid space is not an open river course, but a sponge or wad of cotton-wool, the trabeculæ everywhere sustaining a high surface tension—in other words it is a series of capillary tubes. It

could drain back slowly, but the next positive phase gives it no chance of doing so.

Our chief knowledge of the course followed by the cerebro-spinal fluid has been gained by observing the process of brain atrophy, and the distribution of the areas of wasting in dementia, a subject which Bolton has made his own. Laboratory experiments, involving the injection of coloured fluids, and observations on the live human subject through trephine holes, are bound to be more or less futile, for they entirely alter the hydrostatics of the cranium. I have always maintained that the atrophy of the pyramidal layer in certain regions was a result of direct exposure to the action of a cerebro-spinal fluid charged with neurolytic agents, but it is possible to imagine that this toxic agent might be brought by the blood-vessels, and that serum might transfuse into the perivascular and perineural lymphatic spaces direct from the capillaries. The cortex is supplied by twigs from the external branches of all three cerebral arteries, and the circulation is terminal. These twigs end largely on the convexity of the hemisphere, and it might be that where the fields of supply meet a tendency to toxæmic thrombosis would occur. For example, over the anterior portion of the three frontal gyri the anteromedial-frontal and the intermediomedial-frontal branches of the anterior cerebral march with the inferior lateral frontal and anterior ascending frontal branches of the middle cerebral. Again, over the convexity of the posterior pole, but well in front of the parieto-occipital fissure, the parietal and temporal branches of the middle cerebral divide the field with the parieto-occipital and calcarine branches of the posterior cerebral. If a subminimal bacterial infection from the blood-stream were present, such as has been suggested earlier in this thesis, the thrombosis would probably occur, not in the capillaries, but in the smaller arterioles; although an ischæmic thrombosis, from osmosis of the molecule through hypotonia of the blood, would occur in the capillaries. But it does not seem possible that either form of miliary thrombosis could pick out the pyramidal layer; it would be much more likely to effect subcortical atrophy, and also arterial twigs fibrillate out in other parts of the cortex where atrophy rarely occurs, namely the inferior surfaces of frontal, temporal and occipital lobes. Undoubtedly a great deal of the loss of weight in atrophic states is due to subcortical injury, for a brain may lose more *in toto* than the whole weight of the grey cortex. But this is secondary, and can be explained in other ways. Thus, in the middle stages of atrophy, when the cerebro-spinal fluid is running in comparatively wide lacunæ, it raises the arachnoid from the pia, and the trabeculæ and fine vessels are stretched and destroyed. Terminally, as Bolton points out, gross arterial changes cut off large tracts of cortex, and destruction accelerates in geometrical progression. That writer

relies largely for the production of amentia and dementia upon the principle of hereditary "deficient neuron durability," but does not put forward any theory of the mechanism by which this occurs. My explanation is that both mental conditions are produced by direct contact between the pyramidal layer of cells, including the tangential system of fibres, and a cerebro-spinal fluid charged with neurolytic agents; that there may exist a hereditary blood defect which, on the one hand, prevents development, and on the other causes retrogression; and that the prime determinant of defective growth and atrophy is the course taken by the cerebro-spinal fluid as it passes over the convexity to reach the superior sagittal sinus.

If we examine a series of brains from certain classes of aments, from secondary or senile demented, or from general paralytics in various stages of leptomeningeal overgrowth, we find that the condition is, subject to well-defined limitations as to severity and rapidity, roughly similar in all cases, however widely these may differ in degree. The wonder is, not that minor differences occur in dural or pia-arachnoidal proliferation, ease of stripping, quantity of fluid, and distribution of atrophy, but that in pathological states so diverse, some specific, some non-specific, any family likeness should exist at all. The chemical processes at work in the body must differ widely, but the anatomical results on the brain are similar.

The cerebro-spinal fluid secreted by the choroidal epithelium of the various ventricles escapes into the subdural space in the fourth ventricle through the foramen of Majendie near the apex and the foramina of Axel Key in the lateral recesses. What does not leak down into the cord is stopped by the sharp edge of the foramen magnum and proceeds to percolate round to the anterior aspect of the brain stem, across the inferior and middle cerebellar peduncles and crura cerebri, until it reaches the cisterna magna. Here for the second time stagnation occurs and pia-arachnoidal hyperplasia is seen. The first time was just as it escaped from the fourth ventricle, where it tended to bank up between the lobes of cerebellum on either side of the falx, until it reached a dead end under the tentorium. It does not stay long enough in contact with the great fibre tracts of the peduncles or pons to do much harm, although the occurrence of secondary degenerations in such severely toxic processes as general paralysis must not be entirely lost sight of in this connection. Meanwhile the putty mass of the brain is sitting down tight in its bed, and receives a further squeeze with each cardiac and expiratory impulse. It presses especially upon certain well-defined spots, the orbital plate of frontal, and in the middle and posterior fossæ. No cerebro-spinal fluid can lodge in these situations and neither pial proliferation nor atrophy commonly occurs. I rely upon this fact as evidence that no diffusion occurs through the capil-

laries, but that all the cerebro-spinal fluid comes from the choroid plexuses. From the cisterna magna the fluid must get out as best it can, and it diffuses along two well-defined grooves, one, the larger, anteriorly between the temporal and frontal lobes from the stem of the Sylvian fissure; the other, smaller, posteriorly along the top of the anterior edge of the tentorium cerebelli, where the temporal lobe meets this bony ridge bounding the middle fossa behind, until it reaches the lateral surface somewhere in the region of the preoccipital notch. The anterior stream rises up well in front of Rolando and spreads out like a fan, especially over the posterior part of the frontal gyri until it reaches the vertex; the posterior stream rises up over the angular gyrus, spreading over the first and second parietals, until it strikes the vertex behind Rolando. At first these streams, now coalesced, easily enter the lateral lacunæ, but as the proliferation proceeds entrance is occluded and the stream turns first forwards, then backwards, seeking other lacunæ. The bulk travels forward and stagnates near the upper part of the anterior pole, that is immediately over the prefrontal region. The architecture of this region is anatomically fine, and no doubt also newly developed regions are chemically more labile, but at any rate especial neurolysis occurs here. Some of the fluid, as atrophy advances, leaks down the mesial surface of the hemisphere on each side of the falx cerebri, but it never goes as far as the corpus callosum, so that we may conclude that the hemisphere is raised up and tilted slightly outwards at each positive pressure phase. In general paralysis the frontal lobes, where free of the falx, are often adherent to one another. It will be noticed that the regions next most affected are the intermedioprecentral in front and the auditopsychic and visuopsychic behind. The weak point of my theory is the comparative immunity of the precentral and post-central gyri. But even this is relative, for they are much affected at the upper part. I can only suppose that the great mass of zonal fibres partly protects the pyramidal neurones, and that possibly these areas, being comparatively old, possess more chemical stability. Still it is well to recognise that this is a weak point in the argument. Bolton finds in the infant at birth and at three months the pyramidal layer to be slightly below the adult depth in the visuosensory, 35 *per cent.* below in the visuopsychic, and 50 *per cent.* below in the prefrontal. The same order of regression occurs in dementia. He holds that the last to develop is the first to regress. If so it must be assumed that both phylogenic and ontogenic priority confer upon the nerve-cell increased chemical stability. He also finds that next to the prefrontal the posterior ends of the first and second frontal and the ascending frontal are affected, then the first temporal, insula and adjacent parietal area, least of all the extreme posterior pole. Watson finds roughly the same sequence in juvenile general paralysis. Yet the visuosensory area does not escape,

for it may suffer equally with the visuopsychic, and as its depth is only five-ninths of the latter the percentage loss is greater.

We know little of the state of the cerebral circulation in the psychoses, although the work of Hill and others on the artificial production of high intracranial pressure proves that the unconsciousness and convulsions observed under such circumstances are the result of anoxæmia. The intracranial pressure follows on the general systemic pressure, and the capillary, venous, and cerebro-spinal pressure are practically the same. There is therefore little tendency for fluid to pass from capillaries into the subarachnoid space, especially as the serum, from its greater concentration of ionisable electrolytes, has a higher osmotic pressure than the cerebro-spinal fluid. The sympathetic vasomotor system in the cerebral arteries is poorly represented, but its mechanism is vital. As the blood-pressure in the brain rises or falls, whether from postural change or other cause, afferent stimuli from cranial vessels to the bulbar centres cause an instant response in the well-developed splanchnic vasomotor system, and equilibrium is restored. When the blood-pressure in the brain rises to a moderate degree more venous blood and cerebro-spinal fluid are expressed into the sinuses. When the blood-pressure falls the extra secretion of cerebro-spinal fluid prevents venous congestion, which does not therefore tend to occur unless there is obstruction to the return of blood to the right heart. So venous congestion is the result generally of a low blood-pressure although not an inevitable result, while a raised blood-pressure may promote a freer flow through the vessels. In practice the brain accommodates itself to considerable variations. There is reason to believe that in states of exaltation and excitement there is a free flow of arterial blood through the brain, and that in atonic stupor there is œdema of the tissues. Stuporose patients can be temporarily awakened to mental activity by a prolonged bath at about 110° F., although the stupor becomes as deep as ever within half an hour of their removal from it. There is also reason to believe that in states of depression there is circulatory retardation and venous congestion; I have observed this in certain cases in the retina. All the above are due to blood conditions and do not vary as the general or cerebral blood-pressure, which may be in any given case high, normal, or low. Immediately the skull is trephined the hydrostatic conditions are altered, and the cerebro-spinal flow in some way diverted. I used to recommend trephining over the seat of cranial wounds where the *commotio cerebri* resulted in melancholia, generally with satisfactory results. It then became evident that the improvement had nothing to do with any fracture or its site, and was entirely the result of altered intracranial conditions; but it is not easy to persuade relatives to allow a serious operation in the absence of an accident or scar when recovery may

occur without it. In one case it was clear that actual mechanical obstruction was the cause of the depression. A man, *æt.* 33, had, when fifteen years old, fallen off a shed and fractured his occipital bone against the iron stop of the yard gate. There was extensive old callus and rugosity around and over the occipital protuberance. After three years of acute depression with refusal of food and repeated suicidal attempts, but without noticeable dementia, he was considered to be dying of inanition. Sir Charles Ballance was good enough to come all the way from London to dissect the bone off the torcular. All the sinuses were found displaced and obstructed by bony callus and fibrous adhesions. Recovery occurred in five months. That was twelve years ago, and the man has kept well and cheerful ever since, although said to be "rather funny," no doubt from slight dementia. In this connection we can recall Head's early work on visceral delusions. One can occasionally, in difficult heart cases, locate a systolic murmur by the mental condition, for if the patient is moody and depressed, especially in the early morning, the diagnosis is mitral regurgitation, if he is excitable, irritable, irascible or vindictive it is aortic stenosis. One connects this with the syphilitic origin, the commonest causes of a cerebral and aortic lesion being combined in one case.

The arteries of the choroid plexuses are central, from the middle and posterior cerebral, and the veins run direct into the internal cerebral, which leads through the great cerebral into the straight sinus. These arteries and veins are comparatively large, the capillary system is short, and the venous system is particularly susceptible to the negative expiratory phase. It follows, therefore, that under all conditions of general and intracranial blood-pressure the choroid pressure will be slightly higher than that over the hemispheres, the surface friction being lower. Thus, provided there is the necessary minimum difference in pressure of 28 mm. Hg., secretion of the cerebro-spinal fluid is possible under all pressure variants within physiological limits, and the development of hydrocephalus, and of distension of the ventricles with pressure symptoms when the outflow is obstructed, are explained.

It is certain that under favourable conditions micro-organisms can invade the subarachnoid space, and Marinesco, Lugaro, Van Gehuchten, Orr, Turner, Mott and very many others describe the conditions found. The perineural lymphatic connection with the olfactory fibrils is especially free. Orr and Rows show experimentally how such lymphogenous infections occur, but whether any non-traumatic intracranial infections are hæmatogenous seems still uncertain. Bruce, McDowall, Goodall, Ford Robertson and others have investigated the state of the brain-cells and leucocytes in the acute psychoses, and it is generally acknowledged that leucocytosis is a protective tissue reaction. If the count falls off in the later stages recovery is unlikely. Mott has done more than anyone else to clarify and rationalise our knowledge of diseased conditions of the cortex, for he almost alone has realised the

supreme importance of accurately correlating the mental state with the laboratory investigation, and of eliminating intercurrent bodily disorders when weighing the evidence. We cannot say how, for example, the treponema of syphilis or the trypanosome of sleeping-sickness reaches the subarachnoid space, but in specific processes associated with glial proliferation there appears to be capillary osmosis, for how else can we explain the reaching-out of the neuroglial fibrils towards the vessels, seeing that fibrillar formation is always chemiotactic? It might be supposed that the treponema did not reach the subarachnoid space until the choroid protection was lost, but the laws of chance forbid us to believe that it could be found for years in the spinal subarachnoid space in cases of ataxia, and not in the brain, if the gate of entrance were the choroid plexuses. Sicard maintains that in tetanic intoxications of the blood-stream the cerebro-spinal fluid does not acquire tetanising properties, which suggests that at any rate in the earlier stages of infection osmosis does not occur. It is also an ascertained fact that crystalloids, with their low molecular weight, can osmose from the capillaries into the subarachnoid space. Drugs may be detected within a few minutes of administration and the crystalloid narcotic and convulsant poisons must quickly reach the neurones in order to produce their physiological effects. But the molecule of many toxic glucosides is larger than that of biliverdin or bilirubin, which are occasionally, although rarely, found in the brain in general jaundice. Of course we do not know what protein adsorptions these various bodies form, but it would appear that the choroidal epithelium has a wide power of selection, certainly as regards the large molecules of colloids. Cholesterol, glucose and globulins are found normally in small quantities free in the cerebro-spinal fluid, and syphilis is one of the diseases in which these bodies are produced in great abundance the non-specific psychoses being feebler examples. Whether or not any of the cerebro-spinal fluid comes from the capillaries direct it is at least certain that the oxygen does so, and by this diffusion the cells are nourished. The oxygen content of the fluid is low, but the oxidases are abundant, those of the grey matter five times more active than of the white, and Mott has shown that they are especially active in the granular layer.

There is some clinical evidence that the habitat of the resting form of the *Treponema pallidum* is the liver, and from the conditions seen in hypertrophic cirrhosis, especially in the foetus, in alcoholic cirrhosis, and from the frequency of gall-stones in enterostasis, it is likely that the production of immune bodies in the liver is quantitative, not qualitative, for although the globulin-like bodies are the most efficient activators of lipolysis the alcoholic liver extracts will also so act to a less extent. The lipoids increase as age advances; so do bacterial toxine absorption

and enterostasis. The determinants of dementia in the acute psychoses are severity plus long duration, but we know that few persons who have gone through an attack are quite as active-minded as before. Neurolysis goes on all through the illness, but if this is not too severe or prolonged recovery is still possible. We do not, however, know why some cases of depression persist for years and then recover with little dementia, or if they die of an intercurrent malady little glial proliferation is found. Dementia cannot depend directly upon deficient oxygen supply, for it occurs both in melancholia, where the oxygen-carrying powers of the blood are lowered, and in mania or general paralysis, where there is reason to believe oxidation is free. I believe, however, that states of depression are due to anoxæmia, and the concurrent pathological processes tend to the loss of the resistant capacity of the choroid epithelium and so to dementia, the loss being a disturbance of the balance in the lipoid complexes, especially the lecithins and cholesterins, and the destruction of the oxidases.

SUMMARY.

It is plain that involutionary processes are independent of the mental state which may accompany them, although both may in some instances be dependent upon the same causes; the phenomena are concomitant, not causative or resultant. Involution is a march of gradually increasing cytolysis, marked by the fall of the anabolic and the rise of the katabolic, and depends to quite an appreciable extent upon the power of reaction of the hepatic antitoxins to the intestinal toxins, the penalty of failure being defective oxidation. What we call melancholia depends upon modifications of the same processes, and especially upon excessive bacterial fermentation and enterostasis. In response to this suboxidation a sympatheticotonus occurs, the sensori-motor resultant of which is the depressive emotion. Neither process is necessarily accompanied by dementia, but this is liable to occur because the destruction-products of hepatic reaction are present in the general blood-stream. The physiological foundation of the sympatheticotonus is the ancestral defence mechanism of the thalamostriatal level, the anatomical paths are those of the involuntary nervous system. The defence mechanism is not in itself sufficient to produce a psychosis, but requires the influence of the infragranular layers of the cortex, and these are released from the association control of the supragranular layers because the oxidases cannot supply the neurones with sufficient oxygen. Let us suppose a person receives a severe shock or some such profound afferent stimulus through the sensory association centres. If he is living well on the optimum side of liver metabolism his oxidases rapidly deal with the enterospasm and hyperglycæmia thereby produced. We all know the feeling of morning "crustiness," which lasts until muscular effort,

attention to the work of the day and the reflex visceral effect of a clean bowel have restored the psychic balance. But if the liver is unable to neutralise the toxic bases from the intestine then acids must be obtained by lipolysis, for to prevent somatic death the hydrogen-ion content of the serum must be maintained; and even now hypotonia and partial hæmolysis may occur, in spite of the reactive efforts of leucocytosis. The oxidase-reducase system of the body-cells is thrown out of gear and anoxæmia occurs in the supragranular layers of the cortex, so that association is diminished and the infragranular layers, the seat of the unconscious memories and hidden complexes, are released from control, a state of affairs produced also in some cases of non-specific amentia, where the anoxæmia interferes with the development of areas of later myelination. The patient is now unable to overcome the sympathetico-tonus and begins to live within the vicious circle. If the muscle glycogen remains unoxidised depression comes on, if the leucocyte reaction be sufficient and the oxidase-reducase system be unimpaired excitement may result, if lipolysis be too severe confusion or delirium occurs. But dementia, whether secondary or of the dementia præcox type, cannot follow unless the lipolytic products in the blood-stream gain access to the subarachnoid space, and in the non-specific dementias this is the case only when the choroidal lipoids are unbalanced. By reason of the anatomical arrangement the oxidases of the choroid are resistant, but they are not invincible. The acute psychoses run a course much like the acute specifics—the acquired immunity is well-marked, but often not lasting. After dementia has progressed for some time it becomes stationary, either because immunity overcomes the toxæmia or because the infragranular layers are more or less destroyed, and the unconscious memory lost. No one ever saw a patient die of non-specific dementia, however much the liability to intercurrent disease may be increased. It is curious that by a system of inductive reasoning we arrive at the same point from which the ancient physicians started centuries ago, and ascribe melancholia to the influence of a deranged liver.

I would not have it thought that any process of mentation can occur in any one individual layer of the cortex, but there are reasons for arguing that afferent stimuli are slowly and relentlessly crowded out from the superficial into the deeper layers, and ultimately, in the course of development, leave the cortex altogether. The gradual recovery of the memory after concussion, the slow unclenching of childhood's experiences in dementia, and the early liability of the newer neopallid areas to suffer in disease, all point to the fact that lapse of time leads to increased chemical stability; and we begin to wonder whether this is not one of the elements involved in heredity. The cerebro-spinal fluid always contains neurolytic agents in process of removal; only when the

concentration is in excess does harm follow. If we think of this going on not for a few weeks but for millions of years, we can imagine, if we are not too devoted followers of Weismann, that the more stable ids gradually forsake the somatoplasm and enter into the germplasm, so that the character of chemical immunity becomes fixed. It is easy to picture a conjugated protein whose molecule contains, let us say, 700 atoms of carbon and 400 of oxygen, to be a very labile substance, but which, by acquiring, say, 402 atoms of oxygen becomes comparatively stable although continuing to possess in a large degree much the same physiological properties. There are many other possible explanations of inherent neuronc durability, but as they are all entirely hypothetical we need not further allude to them.

Now by suitable afferent stimuli—that is by the phenomenon which we call attention—round-about association paths in the cortex of an individual may be reopened, so that the resultant motor effects which we call conduct can be brought into harmony with the laws of the “mob instinct,” the observance of which is necessary for the preservation of the race. This is the art of psychotherapy, and although we do not know the nature of psychological processes, we can at least make a guess at the physiological mechanisms upon which they rest, and by this we are able to define the limits of useful psychotherapeutic treatment. Thus, such is admittedly useless in the acute psychoses where attention is seriously diminished, such as states of excitement, confusion or stupor. In slighter cases, such as depression, with or without hallucination or delusion, in states of defective will power, or, as I prefer to put it, in states of disorganised psychosensory association, psychotherapy is of the greatest value in shortening treatment and preventing chronicity, both on account of the increased cortical oxidation which mental effort tends to produce and because in psychoanalysis the closest attention is necessarily paid to bodily symptoms and their treatment. It is fashionable in some circles to call psychotherapy the “new treatment.” It is as old as mankind, and older than any other medical code. The temporary danger is that it may lead to the neglect of sound diagnostic methods, and that its application to organic cases, where the effect can never be more than temporary and may be actually harmful, may lead in a few years to its falling into disrepute, and the real advantages of its application to functional cases be lost sight of. It is justifiable to codify the laws of psychological action as they appear to our present ignorance, but it is not justifiable to confuse the end with the means, or to pretend that the ways of psychology are miles apart from the ways of physiology, and that there is more difference between them than there is between chalk and cheese. The mob instinct we know, and the primitive needs of procreation and life preservation we know, but it is useless for the psychoanalyst to point to repressed

complexes laid bare by dissolution unless he can show us the ancestral prototypes of these complexes in the lower phylæ. This is the criterion by which we limit our belief in psychogenesis, for the whole of physiology teaches that all processes helpful to the animal are preserved, eventually become instincts, and can be traced right through from mollusc to man, from cord to cortex. Unless the laws of evolution hold good when applied to psychology, as they do in other sciences, we have made no real advance, for false analogy is the worst of errors.

I have made an attempt, in the short space at my disposal, to direct attention to a very few of the points in connection with involutionary melancholia which seemed to offer a certain amount of ground for hoping that we are on the way towards a better understanding of the problems underlying their origin, their mechanism and their results. The amount of ground to be covered is so vast that it would be impossible in an address of this nature to work out the arguments in detail, and so great has been the necessity for concentration that it was essential merely to quote the principal data at our disposal and then to formulate the propositions. As a consequence I fear that the steps by which I arrive at certain conclusions are far from clear. Not only so, but I confess that I have been able to make very little advance. We are still hopelessly ignorant of the chemistry of even the simpler body processes; science waits upon the chemist, but the chemist also waits upon the clinician. Unless we observe our cases with a more scientific eye in the future than all but a very small band of workers have done in the past, we cannot give that help to the pathologist and the chemist which alone will guide them in working out our problems for us. Are we to be content for ever to go round the wards daily, chatting pleasantly to the patients, without any thought as to what their blood-pressure is, or what type of micro-organism they are harbouring, or why they are constipated or why noisy? Are we to be content for ever to sit comfortably over a fire and work out a psychological system covering their mental processes, their delusions or their dreams? Can we not see that psychology is nothing but the hope deferred that maketh the heart sick, that for want of a genuine, careful, thoughtful, scientific effort to solve his difficulties mankind has been driven to invent a system which will satisfy his intellectual needs, until we in this country are in danger of arriving at the condition of some educationalists, who have so worked upon parents that their children have been analysed into a state of conversion hysteria, and upon psychologists so that they have been forced to roll themselves in a verbal blanket of meaningless terminology. Why is it that the seeker after scientific knowledge opens last of all the *Journal of Mental Science*? We older superintendents all know why—it is because more kudos is to be gained from selling a sow than from sensitising a serum, from taking 2d. off the maintenance

rate than from discovering how dysentery is propagated. Yet can we be blamed? The man of science has ever been the Cinderella of our profession, and the beggarly salary of a head clerk is supposed to be sufficient for the brilliant pathologist. Fortunately at last there appears a new dawn upon the horizon, and there springs up a hope that central pressure will replace individual effort. If the ratepayer only realised that money spent upon scientific investigation would bring a return two generations later such as the most reckless war profiteer never dreamed of, in saving of sickness, misery and insanity, every hospital would at once be provided with its highly-paid scientific staff. The war has brought over the art of medicine a new spirit, and the brilliant results attained in preventive fields by organised research have proved that money so spent is a good national investment. The Board of Control has commenced a campaign which will have our heartiest support, and we may anticipate that before many years have passed each mental hospital will have its triad of trained observers—pathologist, biochemist, clinician. Scientific team work under each local authority, properly guided centrally, at last gives promise of discovering certain of the determining causes of disease; these discovered, the education of the younger generation will follow in natural course, to the end that fewer may require medical treatment and that more will avoid being broken on the rocks of terminal ill-health. As a small contribution to this end I have suggested some problems which will, as I hope, raise curiosity and criticism.

A Study of the Relation between the Reproductive Organs and Dementia Præcox. By Dr. T. MATSUMOTO, Chiba, Japan. With an introduction by Sir FREDERICK W. MOTT, K.B.E., M.D., F.R.S., etc. (From the Pathological Laboratory of the London County Council, Maudsley Hospital, Denmark Hill, London.)

DR. MATSUMOTO, who came to study neuro-pathology under my direction, having acquired a thorough knowledge of the methods employed in investigating the histology of the central nervous system and the endocrine glands, expressed a desire to study the microscopic specimens which I had prepared during the last six years of the testes and vesiculæ seminales in one hundred cases of all ages dying in hospitals and asylums from injury or disease. A full report of this work was published in the *British Medical Journal* of November 22nd, 29th, and December 6th, 1919.

I was pleased to place at his disposal the preparations for the following reasons: (1) Instruction in the histological appearances of the testes in health and disease; (2) independent confirmation of my own

observations ; (3) independent inferences as to the significance of the changes, especially in relation to the sexual functions and dementia præcox.

As a foreigner he naturally had many difficulties in clearly expressing his views ; I have therefore had to revise many pages and summarise part of his article in order to limit its length, because owing to the enormously increased cost of production it is necessary to confine one's attention to the description of salient facts and inferences.

As Dr. Matsumoto has returned to Japan I am unable to submit this MS. and proofs to him, but fortunately I have the advantage of submitting them to his friend Dr. Morowoka, who is at present engaged in research under my direction at the Pathological Laboratory of the Maudsley Hospital.

F. W. M.

THE NORMAL HISTOLOGY OF THE TESTIS FROM BIRTH TO OLD AGE.

CASE 1.—New-born infant. Sections of the testis stained with hæmatoxylin and eosin exhibited the following microscopical appearances : The spermatic tubules consist of a delicate basement membrane enclosing the closely packed embryonic cells. These cells take the hæmatoxylin stain, and under an oil-immersion are seen to consist of a cytoplasm and nucleus. A nuclear network is very apparent. The interstitial substance consists of a loose connective tissue, blood-vessels and lymphatics. In this loose tissue are tubular-like groups of large polygonal cells, with a large round nucleus often eccentric in position and staining well with the hæmatoxylin. The cytoplasm, however, stains pink with the eosin and shows a number of minute vacuoles. These are the spaces occupied by the lipoid granules, which have dissolved out in the alcohol and xylol used in preparing the sections by the paraffin method. Frozen sections stained with Scharlach R. and hæmatoxylin showed lipoid (red) granules in the cytoplasm of the interstitial cells.

CASE 2.—An infant four months after birth. The spermatic tubules are nearly double the size and less completely separated by the interstitial substance. The interstitial cells of Leydig are hardly visible. They have passed into the resting stage.

CASE 3.—Child of ten years ; died of shock from fracture of pelvis. The seminiferous tubules have increased in size ; they are much more closely approximated and there is less interstitial tissue. The basement-membrane is more visible. The tubules are filled for the most part with embryonic cells, but here and there there is a differentiation into cells of Sertoli and spermatogonia. Some few of the spermatogonia show mitotic figures in the nuclei. There is a tendency to a radial arrangement of the cells, but nowhere is there any evidence of hetero-typical

mitosis. The cells of Sertoli are recognised by their elongated irregularly polygonal or spindle shape, and rest by their base upon the membrana propria of the tubule projecting between the spermatogenic cells towards the lumen of the tubule. They possess large oval nuclei which contain relatively little chromatin. The outer part of the cytoplasm contains a few fine lipoid granules. There are no interstitial cells visible.

CASE 4.—Boy, æt. 16; sudden death from injury. The spermatogenic tubules are now much larger and closely packed together with but little interstitial tissue. The spermatogenic cells present a radial appearance and the nuclei are seen undergoing active mitosis. Spermatogonia and spermatocytes undergoing hetero-typical mitosis to form spermatids and spermatozoa are seen in every tubule. Stained with Scharlach R. and hæmatoxylin frozen sections show the cells of Sertoli filled with fine orange-stained granules. The interstitial tissue contains abundance of coarse and fine lipoid granules, mostly stained red. Many of these granules are seen to be contained in the interstitial cells of Leydig, which have reappeared.

CASE 5.—Adult, æt. 25; death from shock due to fracture of the pelvis. As in the last case all stages of spermatogenesis can be seen in every tubule. The interstitial cells are very evident and contain abundance of lipoid granules. Lipoid granules are also seen in great abundance in the cells of the spermatogenic tubules, especially the Sertoli cells.

THE HISTOLOGY OF THE TESTIS IN DIFFERENT FORMS OF MENTAL DISEASE.

With this brief description of spermatogenesis as seen in the normal testis at puberty and adolescence, I will pass on to a brief survey of the histological appearances seen in specimens prepared from the patients dying in asylums.

Idiocy and Imbecility.

In several low-grade imbeciles and one idiot there was no evidence of spermatogenesis. The tubules were shrunken, and their epithelial contents were for the most part either destroyed as in the case of the idiot, or remained embryonic in character. There was a marked increase of the interstitial tissue, as if a chronic inflammatory process had occurred (possibly syphilitic), and the interstitial cells could not be seen. In one higher-grade imbecile (who differed also in not being subject to fits) there was a fairly normal process of spermatogenesis going on.

General Paralysis of the Insane.

A number of preparations from numerous cases of general paralysis, including a case of congenital syphilitic tabo-paralysis, were examined.

In all of these active spermatogenesis was seen occurring in some of the tubes, although in many of the cases there were, by the side of normal tubules, completely atrophied tubules in which only the basement membrane and sustentacular framework could be seen.

The interstitial cells of Leydig were especially well seen in those regions where the tubules were atrophied. This supports the view that this atrophy of certain of the seminiferous tubules was due to some local condition interfering with the discharge of the secretion from the tubules so affected and causing a secondary atrophy. Stained with Scharlach R. and hæmatoxylin, frozen sections show an abundance of lipoid granules in the Sertoli cells and in the interstitial cells. Many of these patients died from chronic dysentery, tuberculosis and broncho-pneumonia, nevertheless there was active spermatogenesis observable.

Manic-depressive Insanity.

Preparations from several cases were examined, and active spermatogenesis was observed occurring in many of the tubules.

Hospital Cases.

With only one or two exceptions, *viz.*, (1) prolonged and excessive suppuration and (2) two cases of carcinoma, active spermatogenesis was visible. Although there was arrest of spermatogenesis in these cases there was no regressive atrophy.

Dementia Præcox.

Numerous specimens of testes were examined from twenty cases of this disease. They may be divided into three groups, roughly speaking, according to the time between onset of symptoms (as far as could be ascertained) and death. This examination led to the general conclusion that the earlier the symptoms came on and the longer their duration before death, the more pronounced were the histological changes.

In the first stage of regressive atrophy only a few of the tubules show morbid changes, the most obvious being a diminution in size and fewer spermatogenic cells, with fewer cells showing active nuclear mitosis, absence of spermatids and spermatozoa. The Sertoli cells are seen much more distinctly resting on the thickened basement membrane. The interstitial tissue in the region of the atrophied tubules generally speaking is correspondingly increased. The interstitial cells containing lipoid granules can be seen and numbers of lipoid granules are observable in the Sertoli cells.

In the second stage many more tubules are similarly affected, but there may still be some tubules showing all stages of spermatogenesis. Examined with an oil-immersion lens the heads of the newly formed

spermatozoa both in the first and second stages show appearances suggestive of degeneration. They are often of irregular shape and staining reaction; they present appearances like the degenerated forms described by Sir Frederick Mott as occurring in the fluid from the vesiculæ seminales of cases of dementia præcox. Often they have an oxychromatin instead of a basichromatin reaction with the hæmatoxylin and eosin dyes. In fact there appears to be a general deficiency of the basichromatin reaction of the nuclei of the spermatogonia and spermatocytes in all the tubules in this second stage.

In the third stage, which constituted the greater number of the twenty cases examined, there is almost complete or quite complete arrest of spermatogenesis. In the most advanced cases (and they are especially those which were *admitted to the asylum* in very early adolescence) the tubules show a very thickened basement-membrane and no spermatogenic cells; a few Sertoli cells are seen within the tubule and an empty sustentacular network. Stained with Scharlach R. numbers of large, coarse droplets of fatty matter of various sizes are seen in the spaces. The interstitial cells of Leydig can be seen in the first two stages containing fatty droplets, but they appear to be less numerous and less distinct in their outline than those seen amidst the atrophied tubules in the testes of general paralytics. In the third stage the cells of Leydig are still more difficult to find and the interstitial lipoid is less observable. The interstitial connective tissue in some of the cases has undergone proliferation, and it is not uncommon to find therefore a fairly large testis in which there is a complete regressive atrophy of the spermatogenic cells. In other cases there is no interstitial connective-tissue proliferation. In all the cases, however, there is thickening of the basement-membrane, and instead of one layer of flattened nucleated cells there are several.

Senile Dementia.

Several cases of dementia senilis were examined. One octogenarian showed active spermatogenesis in a number of the tubules—indeed, this case exhibited a more normal appearance than any of the cases of dementia præcox. In another of 86, however, there are appearances resembling dementia præcox in the third stage, but the atrophy is not equal to the most advanced cases of dementia præcox, for here and there tubules may be seen in which there is evidence of hetero-typical mitosis, formation of spermatids and an occasional spermatozoon. Most of the tubes, however, show only the sustentacular framework, a few cells of Sertoli, and thickened basement-membrane.

Causes of Regression—Atrophy discussed.

Since chronic diseases do not appear as a general rule to arrest spermatogenesis in other forms of insanity, including dementia paralytica,

it may be concluded that the regressive atrophy is primary in origin and not due to the diseases which cases of dementia præcox so frequently succumb to, *viz.*, tuberculosis and dysentery. Moreover, several of the cases examined in which there was marked regressive atrophy of the testes died after a few days' illness of acute pneumonia. Organic dementia does not produce this regressive atrophy of the testis, nor does extensive brain destruction, whether due to injury, general paralysis, thrombosis or hæmorrhage. It cannot therefore be secondary to the brain lesion.

It is more difficult to examine histologically the ovaries, but Dr. Laura Forster's observations show that there is early fibrotic involution of the ovaries and degenerated follicles in this disease, although similar states were found in other cases than those which were diagnosed as dementia præcox. One case carefully examined and reported upon by Staff-Commander Kojima showed fibrotic atrophy, and this patient died after a few days' illness from acute pneumonia.

In an addendum to Dr. Laura Forster's article, Sir Frederick Mott describes his examination of the ovaries in some cases of dementia præcox and other diseased conditions in which early involution occurs, and thus sums up the situation: Assuming that the degeneration of the follicles may arise from two causes—(1) nutritional, depending upon the quantity and quality of the blood-supply to the organ, (2) germinal, the specific vitality of the follicle and especially the ovum—it is desirable in any future investigation to study particular methods by which the finer histological changes in the primordial follicles can be recognised, so as to determine whether in certain forms of insanity occurring in adolescence, *e.g.*, dementia præcox, a primary degeneration of the ovum occurs, recognisable in the immature follicles.⁽¹⁾

RELATION TO THE ENDOCRINE ORGANS AND THEIR INTERNAL SECRETIONS.

My countryman, Staff-Commander M. Kojima, I.J.N., investigated the weights of the ductless glands in 110 cases dying in Claybury Asylum, and reported that no definite conclusion can be arrived at regarding the weight of the reproductive organs in the male and female in relation to body-weight or mental disease, but in certain female cases in which the thyroid gland was small the ovaries also were remarkably small. In an investigation which he made of the histology of the thyroid gland and other ductless glands Kojima makes the following statement: "In the first three out of four cases of hypothyroidism the patient during life had suffered from ovarian disease. It may be remarked that these were the cases in which there was not merely a glandular atrophy, but there was also a marked chronic inflammatory interstitial change; and in these three cases Dr. Mott

has found a perinuclear chromatolysis of the ganglion cells of the central nervous system similar to those described by him in conjunction with Dr. Brun."

Severe Graves's disease and myxoedema are rarely seen in the male, whereas they are common in the female. Dr. Kojima has reported hyperthyroidism in a case of dementia præcox affecting a male and hypothyroidism in a female affected with this disease; but there is no constancy in this result. It seems that thyroid hypofunction in the female is especially apt to occur at the climacteric period.

In the addendum to Dr. Forster's article, "The Ovaries in Mental Disease," Sir Frederick Mott describes thus the ovaries of a cretin: A cretin, S. B—, æt. 28 on admission to Leavesden, died at the age of 29. No corpora lutea were seen; atretic follicles, a few immature ova and dense fibrous tissue. In the left ovary in addition the organ is the seat of a large blood-cyst.

This fact is interesting, seeing that Dr. Noel Paton in 1917 reported that the removal of the thyroid gland checks the growth of the gonads. He also adds that the action of the gonadal secretion is to check pituitary activity, and increase in size of this gland in the eunuch is possibly a response to unchecked hypophyseal activity. Suprarenal and gonadal activities are closely interrelated, and suprarenal hypoplasia is usually accompanied by genital aplasias or anomalies—*vide* Sir Frederick Mott's articles.

The interrelation of the endocrine organs and the organs of reproduction in dementia præcox is a subject worthy of intensive study from a combined histological, micro-chemical and chemical point of view. For the regressive atrophy of the sexual organs may be the *fons et origo* of a disturbance of the normal balance of the internal secretions and thereby engender auto-intoxication or disturbance of the normal nutritional equilibrium of the nervous system. Against this hypothesis is the fact that removal, destructive injury or disease of the reproductive organs in puberty or adolescence is not followed by dementia præcox—a fact which makes it much more probable that dementia præcox is a manifestation of a germinal deficiency, and that the neurones, which in a normal individual are endowed with a permanent durability for controlling the life of external relation, undergo, like the germ-cells, a premature decay. The body is the vehicle for the germ-plasm, and till puberty all the productive energy with which the individual is inherently endowed is utilised for the growth of the body so that it may be fitted for the struggle for existence. In the male the interstitial cells which provide the sexual hormones fundamental for the sexual instinct are in the resting stage; at puberty they reappear with spermatogenesis, and with their appearance is the vague desire that in normal individuals occasions, sooner or later, an instinctive attraction to the opposite sex.

The results of this inquiry support the contention of Freud that the sexual instinct is the great source of psychic energy, but the fact that the interstitial cells soon after birth pass into the resting stage and do not appear again till puberty is contrary to the doctrine of the sexual instincts operating in infancy.

The failure of the sexual instinct, the source of psychic energy and the *élan vitale* of youth, may be correlated with the regressive atrophy of the reproductive organs and the bio-chemical changes of the neurones. These bio-chemical changes are, in a measure, fundamentally the same in the reproductive organs and the nervous system of both sexes; they are probably primarily of nuclear origin, and dependent upon a germinal inborn defect of nuclear durability.

The other hypothesis is that the defect in the germ-cells may lead to a disorder of the balance of the endocrine functions, resulting in a disturbance of the normal nutritional equilibrium of the neurones with hypofunction and decay. There is some evidence in support of this hypothesis, but further investigations are required before any definite conclusions for or against can be arrived at.

The bio-chemistry of spermatogenesis is fully dealt with in the articles in the *British Medical Journal* by Sir Frederick Mott. In a more recent communication to the Psychiatric Section of the Royal Society of Medicine—"Studies in the Pathology of Dementia Præcox"—he describes the histological and micro-chemical changes of the neurones in this disease.

In conclusion I desire to express my grateful acknowledgments to Sir Frederick Mott for the opportunities he has offered me while working under his direction, also for revising, and assisting me in writing, this article.

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(¹) My anticipation has been confirmed, for I have found in a case of acute dementia præcox histological and bio-chemical evidence of degeneration of all the immature ova, and as they are destroyed there is progressive replacement by fibroblasts.—F. W. MOTT.

Some Cases of Mental Disorder and Defect seen in the Criminal Courts. By W. NORWOOD EAST, M.D.Lond., M.R.C.S.Eng., L.R.C.P.Lond., M.P.C., Medical Officer, H.M. Prison, Liverpool.

(With the permission of the Prison Commissioners.)

THE accurate diagnosis of the state of mind of the prisoner under mental observation forms one of the most important, responsible, and at times exacting duties of the prison medical officer. Practically and departmentally the cases fall into two groups, according to whether the prisoner is convicted and serving a sentence, or unconvicted and awaiting trial; of the latter, all cases of murder, attempted murder, attempted suicide, arson, rape, incest and other sexual offences, libel, or any other offender in whom there is reason to suppose that mental disorder or defect may exist, are placed under observation on reception, and a special examination into their mental condition is conducted. In addition, a considerable number of accused persons are remanded from the police courts for medical examination, and evidence as to their mental condition is given on their reappearance in court. During a recent twelve months evidence was given in criminal courts in 138 cases, and written reports were sent to outlying districts in 8 cases, instead of evidence being given personally. Of the 146 cases, evidence was given in 5 murder trials out of 14 murder cases under observation, but it is not proposed to consider them in this paper, which will refer only to the remaining 141 cases; and although nothing of particular importance is recorded from this small number, the reader may perhaps glance with some interest at mental disorder and defect from the view-point of the medico-legal witness.

Thomas Holmes (1) stated that the prison is probably the worst place in which to study a criminal; others in later years have confidently asserted that a prison is not a suitable place in which to observe and examine offenders. But is this true? In the larger prisons, on reception, the prisoner for observation is admitted to hospital; he stays in bed until ordered up by the doctor, and remains in these surroundings as long as necessary; by this means a suggestion is conveyed from the

first that he is a patient, with the result that in a great majority of cases his confidence is gained. Having with my colleagues been trusted with rare exceptions for many years by prisoners accused of trivial and grave crimes, it becomes difficult to believe more insight would be obtained by observation elsewhere. It must be remembered that child delinquents, who do not come to prison, are not under consideration now; but I can see no reason to believe that the confidence of an adult offender will be more readily given by payment to a psycho-analyst using an elaborate technique in frequent sittings over prolonged periods, even should such offender have the necessary financial resources. No more difficulty in prison is generally met with in obtaining the co-operation of the cultured offender in the mental analysis than with the less cultured; either may be as anxious as the doctor to find the reason for the offence and to ascertain the nature of the disorder or conflict from which it has arisen. In both, office interviews are usually welcomed, and probably under no circumstances is a person so liable to react to sympathy and interest as when awaiting trial, troubled, and in custody. In the criminal court itself some information may be derived from the demeanour of the accused, and the officials, police, probation officers, missionaries, and others frequently supply histories, which, with those given by the relations of the prisoner, supplement the daily observation, office interviews and mental analysis by which the diagnosis of the mental state of the accused person is formed; and no difficulty is encountered in making an appointment with the relations to obtain information concerning the offender if a time is fixed in the evening or on a Sunday, when their working hours are not interfered with.

The old criminal is likely to offer an impenetrable resistance to mental or psycho-analyst whatever his surroundings may be, but probably less to the prison medical officer than others, for in the former he not infrequently recognises an old acquaintance who has known him for many years. It is a common experience to find the habitual offender meet his prison officers again with a certain amount of fellowship and mutual understanding, and most of us have heard them talk of the years they "have served in the prison service with you, Sir," thereby making some claim to comradeship.

When the prisoner is definitely insane or mentally defective, it appears to the writer difficult to appreciate that observation and examination in the ward and office of the prison hospital are disadvantageous to the formation of an accurate opinion.

Trotter (2) states that "it seems inevitable that the enormously complex public services which are necessary in the modern state should set up a barrier between the private citizen and the official, whereby the true relation between them is obscured. The official loses his grasp of the fact that the mechanism of the State is established in the interests of

the citizen; the citizen comes to regard the State as a hostile institution against which he has to defend himself although it was made for his defence." That this is so generally will probably be admitted by all, but unless the prison doctor spares no pains in making an accurate diagnosis of the mental condition of the prisoner, no matter how many hours it may require, and is entirely sympathetic and professional in his manner, he will sooner or later be exposed in the witness-box by the judge or magistrate, who spends his days in weighing the value of the evidence of witnesses. By his honest endeavours the hostility of the accused, when such exists, is usually soon broken down.

In the large prisons there are always a considerable number of offenders who are never under prolonged observation elsewhere—the border-line cases and the higher grade mental defectives. It is with the problem raised in the management of these that the prison medical officer is constantly dealing, and regarding them that the administrators of the law so often require medical evidence to explain their bizarre conduct in civil life. With these, as well as with more normal persons, the doctor lives his days, through these he passes some anxious moments, and perhaps it is not unreasonable to attach some value to his experience. He soon concerns himself with patients and the motives for their actions rather than with criminals and crime, and in motive seeks the keynote of the mentality of his cases. He finds the man who commits successive burglaries for loot, which he converts into money, an entirely different personality to the man who repeatedly commits the same crime to steal a feminine under-garment with which to satisfy a pathological feticism. In cases of substitution crime he finds the individual commits one offence to avoid committing some other—the aberrational patient commits a murder with the intention of getting hanged, believing suicide is wrong, or the sexual offender commits arson knowing the punishment for the latter offence is severe, and a long sentence will prevent for some time any homosexual act. He very early in his career recognises the fact that much criminality results from conflict between primitive instinct and herd tradition, and soon appreciates the value of "the controlling power from without" (2) of the latter; he may come to consider that the success of the modern treatment of the young offender by the Borstal system is in no small measure due to its cultivation. He will not have been many days at his selected work before he comes into contact with those rationalisations, which may be elaborate, whereby the criminal meets his position and settles his conflict. He will have full opportunities of studying the mental mechanisms of persons similarly charged but in different mental states: the middle-aged widow who in the past sent libellous post-cards to a clergyman claiming to be his lawful wife, and who on my evidence was found unfit to plead, not long after had her counterpart in the ill-

balanced but not insane girl who sent obscene and anonymous letters to acquaintances and similarly expressed her sex-complex. Looking below the surface, he understands that the condemned murderer who passes the interval between his sentence and execution cheerfully may not be, and often is not, a callous individual, but one who "represses his complex by the exaggerated development of the opposite quality." (3).

Probably, too, he will have better opportunities in prison than in any other institution for studying simulated insanity, the exclusion of which is of vital importance in determining the mental condition of the trial prisoner.

It is hoped the above remarks are unbiassed and not opposed to progress, but at times there appears to be a tendency to advocate methods of observation and examination, some of which would seem definitely antagonistic to public opinion and liable to abuse in trial-prisoners, and which would, moreover, delay the celerity with which justice is administered in this country, without adequate compensatory diagnostic advantage. As Mercier (4) stated, "if punishment is to deter from crime it need not be severe, but it must be enough to render the crime unprofitable. It need be no more than this, but it must be certain and it must be speedy." On the other hand, it is only just to recognise the possibility that selected cases of crime, the result of psychasthenia and certain other conditions, may at times be cured by psycho-therapeutic measures.

Of the 141 cases, 34 were insane, 39 mentally defective and certifiable as such under the Mental Deficiency Act, 17 mentally defective but not certifiable, 12 showed mental disorder not amounting to insanity, and 39 were classed as normal. In other words, of the 141 cases 102 showed some mental abnormality, while in many even of those classed as normal the condition leading to the offence was toxic, or the circumstances were suggestive of alienation to a bench of magistrates, stipendiary and lay, such as this city fortunately possesses, alive to the frequent co-relation between mental affections and delinquency.

INSANITY.

The offences committed by the insane cases were: Stealing 9, attempted suicide 6, drunk and disorderly 5, loitering 4, wounding 3, threats to murder 1, unregistered alien 2, sexual offences 2, wilful damage 1, sleeping out 1. The forms of insanity were—Manic-depressive: Melancholia, 9 cases—responsible for six attempts at suicide, and one charge each of stealing, loitering, and drunk and disorderly. Mania, 2 cases—one of insulting behaviour and one sexual offence. Periodic, 1 case charged with loitering and 2 with stealing. Delusional insanity: systematised, 5 cases—one each of threats to murder, wounding,

sleeping out, unlawful possession, wilful damage; non-systematised, 3 cases—one of wounding, one of false pretences, and one drunk and disorderly. Dementia præcox was seen thrice in a charge of wounding, once loitering, and once failing to register as an alien. Acute confusional insanity was also met thrice, in one case each of stealing, drunkenness, and insulting behaviour. General paralysis of the insane was responsible for one case of stealing, and one of an alien failing to register. Secondary dementia was seen in one case of stealing and one of loitering. Epilepsy resulted in one case of indecent assault, the remaining case, one of false pretences, being due to undeveloped insanity. As the majority of the cases were only under observation for a short time, it will be evident that frequently nothing more than a provisional diagnosis as to the form of insanity was possible. Only a few cases presenting some feature of medico-legal interest will now be related, the remainder presenting no diagnostic or other difficulty.

CASE I.—Male, æt. 24, single. Felonious wounding. Belief in witchcraft co-existing with delusions of persecution. The accused was a Gold Coast native, who for three years had been cook to a Church of England missionary, and nominally became converted. About fifteen months before arrest he joined the British Navy, and served in the Mediterranean; his ship was never in action nor mined. No reliable history of any previous physical or mental illness in himself or relations could be obtained. Whilst awaiting demobilisation in a hostel set apart for coloured men, he got out of his hammock in the early hours of the morning on an important Church of England festival and attacked another coloured man asleep in his hammock, who was awakened by receiving a wound 12 in. long across his chest. When asked what he was doing the accused made no reply, but proceeded to wound the injured man further with the razor, incising his wrist and opening his knee-joint, others in the dormitory became aroused, and after a struggle the prisoner was overcome, saying he was going to kill four other men he named. When asked why he had done it he first denied it, and then said, "I finish now, I no fit do any more; I have crum for the men say long time I stink and no comb my hair." Some seven weeks before prisoner and the injured man had a trivial altercation in a railway carriage whilst crossing France over some spilt tea, but had been on good terms subsequently. The four men he mentioned he was going to kill had never had any quarrel with him. It was elicited that in the hostel he avoided his companions and sat by himself, but no particular notice was taken of this, and no one suggested that he was objectionable in any way. On admission his face was seen to be scarred by his tribal marks; his height was 62 in., and his weight 103 lb.; he showed no signs of bodily disease nor recent drunkenness, and was apparently an abstainer. He spoke English with a limited vocabulary, and stated that when at a port in the Mediterranean he believed the captain of his ship preferred him to another negro, who, becoming jealous, decided to put crum or ju-ju on him. This was done by taking the prisoner's comb with some of his hair attached and making

"medicine" with it, and "calling" the prisoner's name; then another comb similar to his own was returned to him poisoned with this medicine. He believed that using this comb made his skin shake, his bowels to fail to act, and his body to stink so that people avoided him, laughed as they passed him, and got up and went away if he sat on a public seat near them. As a result of this he became depressed, and was ashamed to go out except at night. He believed he was being killed by the comb, and had several times complained to the doctor that "he stinked," and the other men avoided him. Later he developed delusions that he was persecuted by me, refused his food, and had to be tube-fed. A witness at his trial, who had lived in various parts of West Africa, described crum or ju-ju as a religion or belief in witchcraft, that a blood sacrifice is frequently made by the person who considers he is bewitched or had ju-ju put on him to counteract it, that usually the victim is another coloured man, that if the person who is ju-ju-ed has embraced Christianity he is most likely to attempt the blood-sacrifice on a day he has learnt is of special significance in that religion. It became clear during the examination that the belief in ju-ju was not to the accused an insane belief, but when he persisted that the comb poisoned him, made him stink, and to be avoided by others, his skin to shake and myself to persecute him, there could be no doubt that insane delusions had become superadded. I expressed the opinion at his trial that his belief in ju-ju could not be considered insane, but that his mind was so overwhelmed with his insane delusions that he was incapable of appreciating the wrongfulness of his act, and he was found guilty but insane.

The case was somewhat exceptional. Rarely in this country can it happen that a crime of violence is to be attributed to a religious custom, and seldom does a medical witness at a criminal trial nowadays in England find it necessary to point out to a jury that a belief in witchcraft may be a sane belief, but co-existing persecutory delusions be insane. The examination was somewhat difficult and tedious; an interpreter helped not at all—indeed, the writer when possible avoids such service, for it often remains uncertain whether in attempting to discover delusions or hallucinations leading questions are not being put by the interpreter and one's own statement innocently distorted. As the case, however, slowly unfolded, some suggestion as to whither it was leading became apparent.

Crimes of violence resulting from mental disorder are most frequently due to alcoholic melancholic or paranoiac conditions, and some of our most difficult cases are found amongst those paranoiacs whose delusions centre round the supposed infidelity of wife or husband. Before an accurate diagnosis can be made it is always of course advisable, and at times essential, to interview both parties. Even then the problem may be as difficult as any dealt with in the Divorce Court, and an erroneous opinion may result in grave consequences.

CASE 27.—Male, æt. 50. Threats to murder, paranoia; remanded

for examination and evidence as to his mental condition. He stated that his wife was immoral and admitted her unfaithfulness, that she said she might have given her marriage lines to another man, and saw no harm in going with other men and misconducting herself with them when he was at sea, that men on his ship knew of her behaviour and discussed it. His general condition was poor, but apart from his statements and the circumstances of his threat, there was nothing suggestive of mental disease. His narrative was given with quiet assurance and much circumstantiality, and it was impossible to say if delusions existed or not until his two sisters and his wife were interviewed, and convinced me of her morality and his delusions.

Dementia præcox at times gives rise to legitimate hesitation and doubt in both convicted and trial prisoners. When one remembers that indolence and irritability are frequent in both criminals and patients suffering from this disorder, and may be the only existing early symptoms of the latter, it will be appreciated that to correctly estimate the responsibility of a criminal serving a sentence and exhibiting these symptoms may tax the skill of the observer to the utmost. The disease may be seen to gradually evolve in such a prisoner, and it is necessary to place him under observation for a prolonged period to protect him from the consequences of his infringement of prison rules before he can be certified as insane. With the trial-prisoner the evidence of the presence of this disorder may be inadequate to place before the court. The writer does not hesitate then to state in the witness-box that as a matter of experience he believes the accused is in an early stage of insanity, but that the existing symptoms are insufficiently developed to justify a definite opinion. He believes this to be the only correct evidence to give; he believes also that such evidence carries more weight than when an attitude of assurance is adopted on possibly insufficient grounds.

CASE 91.—Male; age? Wounding; remanded for evidence as to his mental condition. He was an Indian, who at the time of the offence was in an institution when he suddenly attacked another inmate with a knife, but whether he had any reason for doing this was not determined. On admission his general health was good, he was usually mute, and took no notice when spoken to in English. Two Indian prisoners conversed with him, but he made no sensible reply, nor to an interpreter, but it became evident he really understood the dialects they spoke to him as well as some English. He was apathetic, did not occupy himself at all, had some slight tendency to fixed attitudes, would smile to himself from time to time for no apparent reason, and was slovenly. In addition to mutism there was a suggestion of negativism in some resistance on his part to physical examination. The writer felt justified in excluding simulation and giving a decided opinion in this case.

The following was more definite:

CASE 137.—Male, æt. 25, single, charged with loitering to commit a felony. I was present when he first came before the court, and from his demeanour then considered he was probably insane. He had been seen by a police officer to approach three intoxicated sailors and place his hand inside their pockets in full view of the officer. When arrested and asked what he was doing at the docks at 1 a.m. he said he was looking for a ship to stow away to get to America. In court he denied the evidence and repeatedly made contradictory statements. Subsequent inquiries showed that he held a good record in one of the services, but not long before discharge had assaulted his superior officer and was punished. On arrival home his parents considered him strange in manner and he was medically examined, but his father refused to have him certified. Soon after this he left home, apparently fearing detention in an asylum, and arrived from a long distance in this city, and in a few hours was arrested as related. On admission his general health was good, height 69 in., weight 160 lb. Slight anæmia was present. He slept and ate well. He was slovenly and slouchy, apathetic, realised he was in the prison hospital and wanted to write a letter home, but did not do so, as there was no writing-paper in the ward, and he never asked for any. He lied in a simple, purposeless manner, without apparent intent to deceive; he lacked prudence or foresight. He gave no connected account of his career, and appeared to have no remorse for his conduct nor anxiety for his position, and no apparent family affection. His memory and attention were impaired. He was mildly depressed, and a tendency to echolalia was noticed. He was temperate. There was no hesitation in arriving at a conclusion in his case and giving evidence accordingly: the manner in which the offence was committed was in itself suggestive of mental disorder when once alcoholism had been definitely excluded.

The following case belonged to an important group medico-legally:

CASE 238.—Male, æt. 21, single. Indecent assault. Automatism. Remanded for evidence as to his mental condition. The offence consisted in indecently assaulting a little girl, æt. 8, in a public street close to her home, and in doing so he made some unintelligible remark. The child went home to her father, who came out and caught the prisoner, who ran away on seeing him. From information supplied me, soon after the assault, he "appeared to be in a state of oblivion and lacking concentration." Eventually he said he "did not know half of what he did or did not do lately, and was about done now." Both parents alive; father a capable, intelligent man, mother not interviewed; no insanity, epilepsy, or intemperance in the family. Accused received a blow on the head with a cricket-ball at school, but this apparently was of no importance; eventually he left in the highest class. Shortly after he had an illness, in which he was delirious, and on recovering joined the army before he was seventeen years of age, and was on garrison duty abroad. He saw no fighting, but lost a finger in the army as the result of an accident. He had been known by the family to be a sleep-walker, and had been followed downstairs and watched during this state by his mother. He had never had any convulsive attack. Lately he had been noticed at home to be depressed, irritable, and morose,

and had spoken of being afraid of going mad ; when he did not return home, owing to his arrest, his relatives thought he had committed suicide. Since demobilisation he had been for a short time at regular employment, but the afternoon before the offence, whilst carrying out his duties, feared he had an attack, to be described later, coming on and returned home. The next morning he did not feel well enough to go to his work till after dinner, and it was on his way thither that the offence occurred. On admission, height 66 in., weight 126 lb. Slight tremors of eyelids and hands ; pupil reflexes normal, the vision was defective, and strabismus was present ; the knee-jerks were exaggerated. Memory except during an attack was good ; attention, perception and orientation good ; he was emotional and depressed, and took little interest in anything, which was corroborated by his father. He denied masturbation, and was not suspected of this at home, nor did his manner suggest it ; no hypersexuality was detected. He was an abstainer from alcohol, a moderate smoker, but perhaps an excessive tea-drinker. He stated he had had frequent lapses of memory, the first occurring during his convalescence from the illness he had before he joined the army ; he then remembered sitting on the edge of his bed, and nothing more till he found himself a quarter of a mile away from home without any idea as to how he came there ; his mother apparently had missed him, and went out in search of him and found him. This attack was corroborated by the other members of the family. When abroad he had another attack, and found himself when recovering being marched round the guard-room by a sergeant who thought he was drunk. After leaving the army he was out walking, felt an attack coming on, and leant against a shop. About an hour after he found himself in a public park a considerable distance away, the interval being a blank. On other occasions for shorter periods he had recognised brief attacks with temporary loss of consciousness. He described that usually before an attack he had a feeling of faintness and chilliness, that objects became coloured before him until only a red patch was seen, and then he became unconscious. On recovering he was generally walking or standing, and always felt "as if he was just waking up out of a sleep with his clothes on." He stated he had no recollection of the offence nor of being arrested, and that there was a gap in consciousness from walking to his work until a considerable time after his arrest. He had realised for some time that these attacks were abnormal, that he was becoming disqualified to earn his living by them, and that they were getting more severe, and believed he was becoming insane. In relating this story he impressed one as being much more concerned with the probable results of his illness than with the possible consequences of his criminal act. The history of the automatism and of his sensations before and after an attack did not vary at different interviews. Some corroboration was obtained from the evidence of the police officer on his arrest ; his relations knew of the somnambulism and one automatism at least ; his story was given in a convincing manner ; and after considering all the facts his condition was regarded as genuine and probably epileptic.

The usual excuse for a crime heard *ad nauseam* is that the accused

remembers nothing of the events and that his mind was a blank at the time. Apart from alcoholism, epilepsy, or definite mental disorder, the writer holds that occasionally, in certain offences, this may be true. He believes that he has seen cases—rarely—in which the accomplishment of a crime has resulted in such an emotional state of terror and revolt that dissociation followed in a similar manner to that whereby certain war amnesias were produced. This, however, is obviously difficult of proof, and difficult to differentiate from Ganser's syndrome mentioned by Healey (5), in which the patient's desire not to know brings about a state of mind in which he does not know. Even if conceded, responsibility would be unaffected. In an enormous majority of the cases in which loss of memory for the events concerning a crime is alleged, the statement is simply untrue.

MENTAL DEFICIENCY.

The importance of mental deficiency in criminal work is well shown, even in the small figures of this series. Out of a total of 141 cases, 56 showed some degree of mental defect, 39 being certifiable at the time of the examination under the Mental Deficiency Act of 1913, the remainder belonging to that large class of delinquents—the subnormal.

Of those certifiable under the Act, 14 were accused of stealing, 9 of vagrancy, 5 of indecent exposure, 2 each of indecent assault, insulting behaviour, and housebreaking, and 1 each of accosting, false pretences, abandoning child, threats, and attempted suicide. Of those not certifiable under the Act, 7 were charged with drunkenness, 4 with stealing, 2 with attempted suicide, and 1 each of vagrancy, wounding, indecent assault, and indecent exposure. The classification used is of necessity the practical one of the Act, but the idiot may be said never to come to prison, the imbecile rarely—twice only in the present series, a similar number to the moral imbeciles. The majority examined were the feeble-minded, *i.e.*, morons.

The intelligence tests used in the examinations were those of the Binet scale of 1911. Occasionally some special test of another writer was applied, but the elaborate tests sometimes advocated would seem to tend to divert attention unduly from the patient's conduct, which is the most important concern for those upon whom the disposal of the case rests. There appears to be a confusing inclination for those interested in the subject to devise their own tests. The writer only admits two—a simple ethical perception test, and a wish test—by which he endeavours to obtain some information concerning the foresight of the subject.

In the witness-box when necessary the term "mental age" is used, and not that of "intelligent quotient" described by Terman.(6) The value of a medico-legal witness depends not only upon preciseness and

conciseness, but also upon simplicity, and whilst the former term explains itself, the latter requires interpretation to lay justices or jurymen, and is, in consequence, less preferable, in the opinion of the writer, for this purpose. In prisoners under observation for a short time it is not always easy to eliminate the amount of defect resulting from co-existing ill-health, malnutrition, privations or environment. Much difficulty may arise in the differential diagnosis between slight degrees of mental defect and early dementia præcox, and it is often impossible to prove that the inebriate is a mental defective within the meaning of the Act. As a rule one has been unable to trace the cause of the defect. Marr (7) states that the percentage of positive Wassermann reactions varies among the different observers from 15 to 60. Our cases in which this test has been applied are at present too few to draw any conclusion therefrom.

The idiot and the imbecile must be considered unfit to plead, and consequently may be dealt with as criminal lunatics; the feeble-minded person, however, will usually be technically fit to plead, and the moral imbecile probably always. Indeed, concerning the latter it is held that "moral insanity, *i.e.*, disorder of the moral rather than of the mental powers, where a man's intellectual faculties are sound and he knows quite well what he is doing, but his moral sense is affected or diseased, is not yet accepted in England as falling within the rules in Macnaughten's case." (8) In prison work it is found that the imbecile is not a malingerer, but the feeble-minded and the moral imbecile frequently are so; usually the lower the scale of defect the simpler the delinquency, and the moral imbecile may be an able instructor in crime. When a defective has a special ability for committing fairly well-planned crimes, and this is his only ability, it may not be a simple matter to convince an unsympathetic jury that the accused is highly developed in this one direction but defective in all others. In Case 84 the only ability detected in a well-known and observed career was that of escaping frequently from custody.

The importance of the early diagnosis of mental deficiency cannot be over-estimated. The vexed question as to the value of the statement, "once defective, always defective," concerns the medico-legal witness but little; for him the urgent matter is to get the defective delinquent in such surroundings, not necessarily institutional, where the habit of crime will not be formed. If this can be done successfully there may be a chance that the patient eventually will be able to stand alone and adapt himself to his environment, but if the criminal habit be formed the probabilities of this event become small indeed. Goddard (9) states that the feeble-minded person is not naturally wicked or bad, but when misunderstood and mistreated he does have enough of the primitive human instincts to react. To this we might add that the

defective delinquent easily forms a criminal habit, and by the early diagnosis of mental deficiency numerous patients will yearly be saved from becoming persistent criminals.

Were it profitable, examples of every gradation, from the imbecile through the feeble-minded, moral imbecile, subnormal up to the normal, with the intervening grades, could be given from the series of cases with which this paper is concerned. It may, however, be of interest perhaps to quote very briefly a case each of the delinquent imbecile, feeble-minded, and moral imbecile, and for the rest to state that those defectives who are not certifiable under the Act form a heterogeneous group, some probably defective from birth or an early age, but in whom no sufficient justification for this opinion exists in the absence of any history. Others belong to that large number of prostitutes and weak-minded persons who come to prison and fail to quite fulfil all the definitions of the feeble-minded, together with a large number of inebriates, many of whom probably, in an early stage of their career, might have been brought within the definition of the Act, and many others whose minds have become enfeebled from alcohol or other cause.

CASE 73.—Male, æt. 16. Insulting behaviour; imbecile. Referred for medical examination. Father died from morbus cordis following rheumatism. No insanity, epilepsy or intemperance admitted in the family. Patient was the second of five children, and his mother has always recognised him as being simple. No ante-natal influences to account for his condition were traced; as a child he was dropped by a relative, and the family, probably on insufficient grounds, have attributed his defect to this. He went to a special school, but could never learn to read or write. Leaving at fourteen he attempted several jobs, but was never employed for more than a few days before being discharged. He had had an operation performed on the left mastoid, but the hearing of the right ear was good; he had had no other illness, but the Wassermann test was not applied. He was arrested for annoying travellers outside a railway station. He asked to carry their bags, and when refused tried to take their bags from them. On admission height 64 in., weight 114 lb., head circumference 21 in.; had reached puberty. Facial asymmetry was present: the right eye was on a lower level than the left, there was high-arched narrow palate, the teeth were crowded, and the mandible poorly developed, the ears outstanding; internal strabismus of the right eye and phimosis were noted, but no organic physical disease. He gave correct answers to three of the six-year Binet tests, but could not draw the diamond nor count pennies. He completed three of the seven-year, one of the eight-year, and one of the nine-year tests, and graded just within the imbecile limit. He was very easily confused; his memory, attention, perception, ideation and emotional reaction were very defective. He had no prudence. When told to cease annoying the travellers by the police officer he took no notice, and had to be arrested. He showed no sexual precocity and no special ability; he

had no friends or companions, no hopes, no wishes, and few desires. He was discharged at court, after my evidence, to the care of his mother, and has not been heard of again.

CASE 93.—Male, æt. 21. Indecent assault; feeble-minded. His father was not interviewed, but his mother was somewhat defective. No trace of ante-natal influences; the Wassermann reaction was negative. No family history of intemperance, epilepsy or insanity was admitted. Patient attended school regularly and worked as a bricklayer's labourer for some time, but for some months had only worked casually on odd days. When dark one evening a little girl, æt. 4, was playing with other children in front of her home, when he picked her up and carried her into an adjacent stable and committed the assault, and was interrupted by the child's father, who had been summoned by her playmates. The accused had never had any serious illness nor accident, had never had any fits, and never been in custody before, was an abstainer from alcohol and tobacco, had no companion of either sex, did not read bad books nor go to pictures, had no hobby, no amusements, and no special ability. On admission height 66 in., weight 145 lb., somewhat simian aspect; head circumference $21\frac{1}{4}$ in.; high-arched narrow palate; general health good; normal sex development. He answered all the Binet tests up to eight years, but only one nine-year test and none of ten years. He was ignorant on matters of ordinary interest and common knowledge, was apathetic, easily confused, with markedly defective memory, attention, perception, emotional tone and ideation. He was indolent and had no initiative, but could carry out simple verbal orders; he was unable to appreciate the turpitude of his offence, and could not distinguish the difference in this respect between stealing food from a shop when hungry if in the possession of money, or without any; he thought it more wicked to steal a big rabbit than a small one, but could not give any reason for his opinion. When asked what he would like if one wish he desired could be granted said "A good feed"; he was already on a generous hospital diet, and his desires did not extend beyond the immediate present. He had a certain amount of simple cunning. When before the court he told the magistrate he had been in hospital all the time in prison, and then at once pretended to have a fit. His home environment was unsatisfactory, and after my evidence he was sent to an institution.

In the following case of moral imbecility the patient came, in my judgment, within the definition of the Act—that is from an early age he displayed permanent mental defect, coupled with strong vicious or criminal propensities, on which punishment had little or no deterrent effect. The legal definition of moral imbecility, fortunately for the medico-legal witness, does not require a decision of the keenly contested question as to whether moral defect can exist without intellectual defect. It, however, unfortunately does not assist in defining where the dividing line between the moral imbecile and the habitual criminal should be drawn—a practical point of difficulty in certain cases, and one which appears to be best met by Tredgold's view of the mental defect of the moral imbecile as having no conception of any social or

moral obligation, and lacking in the higher faculty of control and wisdom (10).

CASE 43.—Male, æt. 21, single. Stealing. Remanded for examination as to his mental condition. His parents married when twenty-one years of age; both are alive, healthy, and teetotallers. No ante-natal influence was traced. He was the youngest of thirteen children. There is no record of any insanity, epilepsy or intemperance in the family. The accused has had no serious illness; measles and pertussis left no sequelæ. When about twelve years old he suffered some emotional stress at the death of a favourite brother. No other possible developmental influence was found. He did not do well at school, and started stealing when fourteen years old. At fifteen years he was sent to a reformatory for theft, but was only detained there a short time on account of his mental condition. He incited others to acts of insubordination, was cunning, deceitful, and committed all sorts of petty thefts from other boys, but seemed to have no idea that he was doing wrong. He suffered from enuresis, and was recognised there very soon to be abnormal. Since then he has been convicted for theft six times and imprisoned once, he has stolen from gas-meters and missionary boxes, etc., and no criminal charge laid against him; he is now charged with stealing, and has five other petty larcenies in different towns outstanding. He steals small amounts of money or articles of little value, and usually spends the proceeds on trivialities. His thefts are committed in an impulsive and stupid manner, showing marked lack of foresight in the method, slight gain for considerable risk, an absence of precaution to avoid discovery, a sense of injustice when detected, earnest appeals for another chance but no real intention to reform, and no appreciation of the desirability of living honestly. He has no friends of either sex; his father says he is clever at finding employment but a fool at keeping it, and he has never been in any situation any length of time. He twice escaped from institutions for defectives, and on one occasion joined the army, was shortly found unfit and returned to the institution he escaped from; he then escaped again, travelled a long distance under the seat of a railway carriage and rejoined the army, shortly to desert, and then came home again—a long distance—under the carriage seat. At the time of his last arrest he was an army deserter, but the military authorities had no intention to proceed further on account of his mental condition. He has always been found untruthful and unreliable by all who knew him. He has marked special ability for playing music by ear, but has no hobbies and no other amusements. His height on admission was $70\frac{1}{2}$ in., his weight 120 lb., head circumference $20\frac{1}{2}$ in.; he showed facial asymmetry, a usual growth of hair on his body, but scanty facial growth of hair; was of average physical development; the palate was normal, the teeth defective; general health fair; no enuresis now. The Wassermann reaction was negative. His responses to intelligence tests varied: he answered all the fifteen years' tests accurately except the fourth, for which he was credited half. With the other tests he became obstinate and would not say, but he was considered not below the average in intellect. He could read and write well, had a good vocabulary and composed a good letter, but it

contained obvious untruths which were unlikely to deceive the recipient. He was fairly well informed on matters of ordinary interest and common knowledge, but he had no fixity of purpose, was inattentive, improvident, without wisdom or control, and expected to deceive people with the most obvious untruths. His home environment had always been good. His long-suffering parents had looked upon him as a problem child, and tried to understand him and improve him, and had been to much trouble on his account, but he lacked family affection and had no remorse for his conduct, which could not be traced to any conflict; this, however, even if it existed, was not likely to be revealed in so persistent a deceiver. There was no doubt that unless confined in an institution he would always prey upon society, and no benefit could be anticipated by other treatment. He was sent to a certified institution on my evidence.

MENTAL DISORDER NOT AMOUNTING TO INSANITY.

This group of our cases is more important than the small number comprising it would suggest. Five were cases of war psycho-neuroses, alone or complicated with alcohol, 1 of post-influenzal and 1 of traumatic neurasthenia, 1 of hysteria and alcoholism, 1 of psychasthenic inebriety, 1 of mental depression and Graves's disease, 1 of mental weakness remaining after an attack of insanity, and 1 case of doubtful epilepsy with psychic symptoms. The offences were 5 of attempted suicide, 2 of stealing, and 1 each of loitering, wilful damage, false pretences, burglary, and unlawful possession, but none were of a serious nature. No case presents features comparable to any other, and it would be unserviceable to describe each in detail, but a short account of one selected haphazard may indicate the border-line material dealt with.

CASE 14.—Male, æt. 27, married; false pretences. Of good social position, his home life had been unsatisfactory and complicated by conflict; he left it as soon as possible. There were no insane or epileptic relatives, but some intemperance in at least one near relative. He did well at school, and never had any serious accident or illness. At the outbreak of war he was in the merchant service, and as soon as his ship reached England he enlisted, a volunteer in the army, and later returned home wounded. Whilst convalescing he had an amnesia lasting for some days, and was sent to a well-known military mental hospital, and there was under the care of expert neurologists, who found partial loss of memory, some of the lost details being easily brought back by association. He was discharged after some months improved, but permanently unfit for military service; he soon re-enlisted, and in a short time broke down again, had another amnesia, and was again discharged. He obtained civil employment, but was unsatisfactory and left. Not long after he married, having only his pension to live on, and was making efforts to re-enlist when arrested. After marriage he incurred some monetary loss through sheer lack of the most elementary prudence, and cashed a small cheque which he

had made payable to himself at a bank at a branch of which he had formerly had an account, but later in the same day attempted unsuccessfully to cash a forged cheque payable to himself at the same bank. The transactions were carried out in such a manner that it was difficult to conceive how they could escape detection—indeed, he almost seemed to court it. On admission he presented tremors of the eyelids and hands, the reflexes were normal, there was slight mental confusion, marked lack of ordinary prudence and foresight, some apathy and untruthfulness, and, in spite of the offence, indecision in some of the ordinary affairs of life. He had not been drinking, and as many important details are necessarily omitted from this account it may be unconvincing, but the reality and genuineness of the case were definite. It was considered that as the result of the war psycho-neurosis some impairment of mental function remained, which, however, did not amount to legal insanity, and in view of this opinion the sentence was correspondingly light, notwithstanding the not unnatural suspicion that such a defence has come to give rise to, because of the unjustifiable manner in which alleged shell-shock has so frequently been exploited as an excuse for crime.

The thirty-nine cases completing our series could not be considered mentally abnormal, but in no instance was the time spent in the examination considered wasted. Some were discharged by the magistrate on learning the connection between the offence and their physical state; we may not be altogether unduly optimistic in hoping that in others the advice given may have borne fruit. These cases would, however, fail to hold the attention of the reader should he have persevered with this paper so far. If I have been able to present to him cases of mental disorder and defect from an uncommon angle, and to interest him therein, my object has been achieved.

In the early part of this paper reference was made to the assistance given by the court officials, police, probation officers, missionaries and others in supplying histories, when known to them, of the cases referred for medical examination. The West Lancashire Association for the Care of the Mentally Defective have placed at my disposal histories of certain of the cases which have been of the utmost value, and the writer feels it a privilege to have been enabled to take part occasionally with those mentioned in their team work for the prevention of delinquency.

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Clinical Notes and Cases.

Abstract of a Report on the Mental Division of the Welsh Metropolitan War Hospital, Whitchurch, Cardiff, September, 1917–September, 1919. By MAJOR E. BARTON WHITE, R.A.M.C., Officer-in-Charge, Mental Division.

THE Mental Division was opened in September, 1917, with 450 beds for N.C.Os. and men; and in September, 1918, a ward for 16 officers was added.

The total number admitted during the period under review :

| | | | | | |
|------------------------|---|---|-------------|---|------------------|
| From home service only | . | . | officers, 3 | . | Other ranks, 193 |
| Foreign service | . | . | „ 16 | . | „ 1561 |
| | | | | | <hr/> |
| Total | . | . | „ 19 | . | „ 1754 |

Table I shows the associated factors discovered as causes in the total admissions of officers and men. More than one cause has often been found attributable. The association of general strain of war service has been omitted, except when this factor has alone been elicited, since it probably contributed in some degree to the condition of nearly all our cases.

Notes on Causation.

Heredity.—The large number with an insane inheritance is noticeable, and only those cases whose parent, grandparent, uncle or aunt, brother or sister has been certified insane have been included.

Mental stress.—Among other forms of mental stress, infidelity of the wife left at home appears to have had no small share in producing worry and insomnia. In nine cases only was any such cause the only factor established other than general stress of war service, but nineteen other cases were found where such stress was associated with malaria, dysentery, or severe wounds.

Prisoners of war.—The life led as a prisoner of war, as described both officially and by prisoners themselves, in many instances appears in itself sufficient to have induced mental derangement, and, indeed, in only one case of the seven admitted was any other factor found, and that was exhaustion from dysentery.

Head injury.—This consisted of falls and blows, and as the result of being buried by *débris* after explosion, with or without scalp wounds.

(Fractures of the skull have been included under "Brain Lesions," the assumption being that some such lesions, however microscopical, must co-exist.) Such cases were for the most part confused, and some acquired delusions.

Brain lesions and fracture of the skull were nearly all due to wounds admitted with or without foreign bodies.

TABLE I.

| Cause. | The only factor elicited in— | | Associated with other factors than general war strain. | | Total incidence. |
|---|------------------------------|------------------|--|------------------|------------------|
| | Officers. | N.C.Os. and men. | Officers. | N.C.Os. and men. | |
| Insane heredity . . . | 1 | 121 | 1 | 46 | 169 |
| Neurotic, alcoholic epileptic heredity . . | — | 11 | 2 | 43 | 56 |
| Previous attack . . . | — | 42 | 1 | 5 | 48 |
| Mental stress . . . | 3 | 9 | — | 19 | 31 |
| Stress of war service alone . . . | 8 | 61 | — | — | 69 |
| Privation as prisoner of war . . . | 1 | 6 | 1 | 1 | 9 |
| Alcoholic excess . . . | 1 | 19 | 1 | 21 | 42 |
| Head injury without apparent brain lesion . . | — | 19 | — | 21 | 40 |
| Brain lesion . . . | — | 10 | — | 1 | 11 |
| Other severe wounds . . | — | 33 | — | 6 | 39 |
| Heat stroke . . . | — | 17 | — | 11 | 28 |
| Explosives . . . | — | 25 | — | 48 | 73 |
| Malaria . . . | 1 | 53 | 1 | 32 | 87 |
| Syphilis . . . | 1 | 14 | — | 58 | 73 |
| Dysentery . . . | 2 | 5 | — | 18 | 25 |
| Cerebro-spinal meningitis . . . | — | 2 | — | — | 2 |
| Gas poison . . . | — | 9 | — | 8 | 17 |
| Other diseases . . . | 2 | 30 | — | 33 | 65 |

Heat stroke appears to have been a very definite factor associated with general stress of warfare. From the cases seen, it seems to have left a condition of confusion and general apathy, with amentia, loss of attention-power and concentration. In many of the cases "heat exhaustion" might have been a better term, for only in nine cases was there a history of any so-called "stroke."

High explosives have helped to produce both forms of hysteria, but few such cases found their way into military mental hospitals unless some more pronounced psychosis had supervened.

Alcohol plays its part in all wars, whether in an attempt to drown a great mental conflict, such as the repression of fear, or as a more liberal part of the diet in obedience to the advice—"Eat, drink and be merry,

for to-morrow we die." Whatever the restrictions or facilities afforded, the statistics evidence a low percentage of cases that can be attributed to alcoholic excess. The incidence is perhaps smaller than might have been expected. There were no acute hallucinatory forms admitted due to this cause; the majority were either confused, or had delusions of reference, etc.

Malaria shows the second highest figure of all factors discovered. Nor does this figure represent the number of men who had an attack of malaria at any time during their service, but only the number whose psychotic symptoms definitely started during the attack. One is not inclined to put all the blame upon the hæmosporidia for the mental state that has so frequently followed or accompanied the disease. Quinine has been given in very large doses without question of idiosyncrasy, and it is surprising to find the number of people who are morbidly depressed after even small doses of this drug; and hallucinations, probably suggested and induced by deafness and tinnitus, are on record in civil life. In only two cases of several who had rigors while in this Hospital was the protozoon demonstrated in the blood. In thirty-two out of eighty-five cases, malaria was associated with one or more of the other disturbing factors mentioned in the table.

Syphilis.—The number of cases under "syphilis" represents those cases in which it has been definitely discovered that the disease has been contracted at some time or other. This will be referred to more fully under "General Paralysis."

Gas poisoning, apart from its physical phenomena, producing great mental distress, has no doubt contributed towards the production of states of depression and confusion connected, if not with any definite poison, with the insomnia and exhaustion so frequently seen.

Previous attacks.—One officer had had a previous attack of mental disorder, but was not certified insane; forty-seven men had been certified insane, and discharged from civil asylums prior to August 3rd, 1914.

Table II shows the disposal on discharge as permanently unfit for further service after medical board, and those remaining resident in hospital on October 1st, 1919, arranged according to mental disorder.

Notes on the Forms of Mental Disorder.

Imbeciles and defectives.—The term "supposed accepted fitness" for service has been used. When passing through the wards and gardens of the Mental Division one did not find the majority of the patients the well-built, symmetrically featured, and intelligent looking youths that might have been expected. True, there were many of these, but the large number of obviously congenitally deficient caught the eye first; stigmata of degeneration were found also in a high proportion of those whose disability came under the heading of the other psychoses. The

high percentage of boys and men taken into the Service either imbecilic or definitely mentally deficient is regrettable.

A few may have given a good account of themselves in the line, but these must have been exceptions. Though the majority were in labour battalions, from accounts received from combatant officers many of them appeared to have caused considerable inconvenience, if not definite danger, in the front-line trenches, and also at the base, where they were always a source of anxiety.

TABLE II.

| | United Kingdom. | | | | | Expeditionary Force. | | | | | |
|---|-----------------|------------|-------|----------------------|------------|----------------------|------------|-------|----------------------|------------|--------|
| | Recovered. | Certified. | Died. | Transferred, etc. | Remaining. | Recovered. | Certified. | Died. | Transferred, etc. | Remaining. | Total. |
| Imbecility | 6 | 6 | — | 1 | 1 | 28 | 13 | — | 3 | 4 | 62 |
| Congenital mental de- ficiency | 31 | 9 | — | — | 2 | 149 | 68 | — | 27 | 30 | 316 |
| Moral insanity | — | 3 | — | — | — | — | 7 | — | — | — | 10 |
| Melancholia | 34 | 6 | — | 2 | 1 | 158 | 51 | 3 | 52 | 45 | 352 |
| Mania | 9 | 5 | 1 | — | — | 47 | 15 | 2 | 10 | 18 | 107 |
| Manic-depressive | 1 | 2 | — | — | — | 9 | 6 | — | 3 | — | 21 |
| Delusional | 9 | 5 | 1 | 2 | 2 | 82 | 82 | 1 | 35 | 49 | 268 |
| Confusional | 4 | 3 | 2 | 1 | — | 72 | 24 | 2 | 30 | 42 | 180 |
| Stupor | 1 | 2 | 1 | — | — | 11 | 2 | — | 1 | 7 | 25 |
| Delirium | — | — | — | — | — | — | — | 1 | — | — | 1 |
| Dementia, secondary | 1* | 3 | — | 2 | — | 7* | 10 | 2 | 1 | — | 26 |
| General paralysis | 2* | 9 | 1 | — | 1 | 12* | 51 | 13 | 6 | 7 | 102 |
| Cerebral syphilis | — | 1 | — | — | — | 1 | 3 | — | 1 | 4 | 10 |
| Dementia præcox | 2* | 8 | — | 2 | — | 5* | 59 | — | 12 | 21 | 109 |
| Insanity with brain lesion | — | — | — | — | — | 4 | 2 | 1 | 1 | — | 8 |
| Insanity with epilepsy | 3 | 1 | — | — | — | 21 | 10 | — | 5 | 5 | 45 |
| Functional disorders | 5 | — | — | 2 | — | 55 | 9 | 1 | 4 | 40 | 116 |
| Not insane | — | — | — | — | — | 10 | — | — | — | — | 10 |
| Absentees | — | — | — | — | — | — | — | — | — | — | 5 |
| Totals | 108 | 63 | 6 | 12 | 7 | 671 | 412 | 26 | 191 | 262 | 1773 |

Many could neither read nor write nor even make simple additions. Several had never been to school, and the appearance of their degenerative stigmata has been pitiable in uniform. A few were found to be encumbrances at an early date; others broke down with some superimposed psychosis produced by the change in their mode of living and army discipline, or ultimately by the effect of exposure to shell-fire.

* Found fit to live at home, though not recovered. There were no deaths amongst the officers, and there were none remaining resident on October 1st, 1919. The *absentees* were men who broke their parole while waiting for their Invaliding Board, and in whose cases there was delay in obtaining the necessary documents to so dispose of them.

While many of them may have been expected to be hardly sensible to such stimuli, the majority that have come under observation appear to have felt their position acutely. Some deserted in a panic, others attempted suicide, or indulged in self-inflicted wounds.

The seven cases of *moral insanity* appear to have been mostly old gaol-birds, and it is difficult to be convinced that their mental condition was in any appreciable way aggravated by their service.

Melancholia affords the second highest number of all the forms of mental disease admitted, and the highest of those acquired during the war, *i.e.* excluding the mental defectives. They formed 19.6 *per cent.* of all admissions. The ratio of melancholia to mania is also enormously increased as compared to the ratio of these states before the war. We believe that this is in part due to the incidence of malaria, from which so many of our cases were suffering at the time of the onset of their psychosis, and also perhaps in part to its treatment. The percentage of actively suicidal cases was far more frequent than before the war amongst the depressed, and eight cases were admitted with healed, or part-healed, self-inflicted throat wounds.

Protracted cases of dysentery—by producing a profound exhaustion (possibly more than as a result of toxins)—has been counted responsible for several of these cases, nine of which had been previously certified as insane and discharged recovered to civil life before the war. Of these melancholics, over 53.9 *per cent.* were sent home recovered during the period under consideration.

These cases differed in no way from those seen prior to the war. Few of them were acute. Seven of them had been previously certified insane and about one-half had a psychopathic inheritance.

Manic-depressive insanity.—In twenty-one of the foregoing states of excitement and depression a definite history of true alternation was established. The majority were in the excited state on admission.

Delusional insanity.—There have been a large number of delusional states in the cases admitted. Rather over half of them were able to go home in from two to six months; the remainder had to be certified.

These cases, whether following alcoholism, or the combination of several factors, were unusually interesting. They were first thought to be paranoidal states which were not expected to recover. The delusion of accusation of being a German spy was frequent. Persecution by superior officers perhaps was brought about by unaccustomed discipline on a sensitive mind. The very definite removal of conditions which may have brought about this state probably had much to do with their recovery. We had to deal with several dangerous paranoiacs, and much trouble was made by their agitation amongst other patients, and their well-planned complaints, both in writing and getting their letters posted to headquarters, and verbally to inspecting general officers.

Confusional insanity.—There were many cases of confusion, and one would have liked to have had many of them under observation for a far longer period. Many no doubt were early cases of dementia præcox. The majority, however, became well enough to be sent to their homes. These cases had a history of heredity of either psychopathic or neuropathic origin, combined with exhaustion from wounds or from malaria, etc. One or two were associated with alcohol in susceptible subjects. Over 10 *per cent.* of the milder confusional states went to their homes.

Stupor.—There were twenty-five cases which have been collected under this head, but only a few remained to be certified, the majority making complete recoveries. Five had to be fed artificially for some time, and three of these recovered. One case who had remained stuporose for five months was anæsthetised, and a strong current applied to groups of muscles. All gave strong reactions. The current was then applied to the larynx. The patient used his voice, but spoke no words. After the current was removed we asked him a question, to which he again made some inarticulate noise and lapsed again into a state of stupor, in which he was transferred some two months later to a civil mental hospital after discharge from the service.

Delirium.—Only one such case was admitted, and he was suffering from lobar pneumonia (which unfortunately was not recognised prior to admission from a local hospital), and died in forty-eight hours.

Dementia (secondary).—These cases were secondary to alcoholic insanity, or had been previously insane, the dementia supervening rather sooner than usual with the second attack.

General paralysis of the insane.—Syphilis was definitely established to have been contracted in 49 cases out of 102 admitted, the positive Wassermann test not being included as a definite positive proof. Twenty-three showed a history of psychopathic or neuropathic inheritance.

Not more than one or two showed any marked stigmata of degeneration, and, judging by their pre-war occupations and also their standard at school, they compared favourably with the other psychoses.

We know in civil life how head injuries appeared to act as a strong exciting cause in determining the onset of the initial symptoms, and have had to give evidence concerning such causal factors to help determine the question of compensation. Such head injuries were found to have occurred in thirteen of our present cases.

The Wassermann test was made on all of these cases. The following table gives the reaction :

| | | | | | |
|----|-------|---|-----------|---|--------------------------|
| A. | In 46 | + | in serum, | + | in cerebro-spinal fluid. |
| B. | In 22 | + | „ | — | „ |
| C. | In 29 | — | „ | + | „ |
| D. | In 5 | — | „ | — | „ |

All those under “D” were repeated after an average interval of three

to six weeks, and were then + in the cerebro-spinal fluid in all cases and in the serum in four of the five.

The frequency of a positive reaction in the cerebro-spinal fluid with a negative reaction in the blood-serum is noted. It may be that the anti-syphilitic treatment had rendered the general system free, but has been unable to take effect on the nervous system when once this has been invaded.

The Nonne-Apelt reaction was performed in ninety-two cases, and in all but two was positive. For information regarding Stanford's nitrogen contents estimation of the cerebro-spinal fluid reference should be made to *Reports from the Chemical Laboratory: Cardiff City Mental Hospital*, No. 2, 1919.

Cerebral syphilis.—Nine cases were recognised as suffering from cerebral lues. The patients showed clouding of consciousness and confusion with early dementia. Their reflexes were affected to some extent in every instance, and there was loss of facial expression, with labial tremor. They did not show the familiar well-marked disturbances of the paralytic; excitement and exaltation were absent in every instance. In all the Wassermann test was positive.

Dementia præcox.—All three forms of this psychosis were admitted, the majority being, perhaps, of the paranoid type, and katatonia the most uncommon. In about one-third of the cases was a psychopathic inheritance established.

Insanity with brain lesion.—There were eight of these, including cases of severe fracture of the skull. Scalp-wounds from severe blows, with or without naked-eye injury to the bone and periosteum, have been shown to produce bruising of the dura with varying degrees of cortico-meningeal hæmorrhage. Such patients complained of giddiness and headache (which is nearly always frontal), and showed a general mental dulness. Increase in tendon-jerks was nearly always present (*vide* Jefferson, *Brain*, vol. xlii, Pt. II).

Insanity associated with epilepsy.—Several cases admitted diagnosed as epilepsy had no epileptic manifestation since returning from overseas and for a period of several months after admission to this hospital, and this may support the theory of those who believe epilepsy to be almost entirely functional.

Those cases that had frequent fits since admission were treated with intra-muscular injections of collosol palladium, in connection with which there were none of the depressing sights of degradation produced by continuous administration of the bromide salts.

Hysteria.—Under this heading are included the so-called shell-shock cases that found their way into the mental division. Among these twenty-six there were cases of both conversion hysteria and anxiety hysteria. There were several constitutional neuropaths.

Psychasthenia.—Nine cases diagnosed under this heading are also included in the shell-shock cases.

Neurasthenia.—There were no unusual symptoms, and after an average residence of two months in hospital the patients were discharged the Service and sent to their homes.

Mental instability.—These cases showed no definite psychotic symptoms on admission. They were given to reacting in an exaggerated manner to stimuli. They were often the cause of discontent among the patients in the same ward, and one was not sure what they might do next. After a period of rest and control they were allowed on parole, and when their behaviour had been normal from one to two months they were discharged to their homes, with the exception of three cases in which psychotic symptoms supervened—or, should we say, came to the surface.

Notes on Treatment.

The results of obtaining cases early for treatment have been evidenced. This hospital, which, in its civil capacity, is the mental hospital for the city of Cardiff, is modern and well equipped for the care and treatment of the mentally afflicted.

Female nursing staff has been employed: a sister, staff nurse and three or four probationers in each ward of between forty to fifty beds, with two or three orderlies, have been the usual complement. This has been conducive to better behaviour and restraint of conduct and speech among the patients, and the atmosphere of hospital has been maintained.

Parole for convalescent patients has been very useful in sorting out cases individually, and gradually testing their self-reliance and stability.

Rest in bed, verandah treatment, and additional diet have been beneficial in certain cases, especially in those of depression, confusion and stupor. Continuous warm baths have been used in cases of prolonged excitement, and where there has been much agitation, with benefit. Extracts of the ductless glands—pituitary and thyroid—have been useful in cases of stupor and confusion, combined with massage.

Massage has been most useful in cases where there has been much loss of muscle tone and sluggish circulation.

Some cases have shown relief by suggestion, though owing to lack of space there has been difficulty in obtaining privacy and silence for this purpose. Moreover, the office-work of a mental division leaves but little time for individual attention.

Exercise and recreation have been well provided for the convalescents in the form of concerts, bioscope shows, and occasional outings in the country; while several men on parole have worked on the farm and garden during the morning.

Army discipline has helped in many ways in their management, but there has been collusion and combined action among the paranoid and delusional cases to overcome authority, though without any untoward incident of note.

There has been no case of suicide or homicide, largely owing to the conscientious interest displayed in their duties by the staff.

Deaths.

There were thirty-two deaths during the two years under review, including fourteen due to general paralysis, two to intracranial growths, and one after shrapnel wound of the brain. Two cases died of exhaustion after mania.

Remarks.

Though stress of war and its exhaustion have been mentioned, and this factor alone was elicited in a fair number of cases, there is no proof that exhaustion, *per se*, will produce any of the psychoses. If we could probe each individual case, no doubt we should find some hidden complex, long pent up, probably since long before the war, had been released by one or more factors incidental to war service, and thus the conflict could be recognised. Such a factor, by upsetting conscious control of repression, such as repression of fear, would bring about a psychotic state, particularly in constitutional neuropaths, so many of whom found their way into the services.

The State, which is largely dependent for its welfare on the fitness of its manhood, and has to provide directly or indirectly for the maintenance of the unfit, would do well to consider more seriously the problem of the mentally unfit—mentally unfit both individually and progenitally. The war has shown us that with far earlier treatment more can be done towards recovery.

In conclusion, my thanks are due to Lieut.-Col. E. Goodall, C.B.E., Officer-in-Charge of the hospital, for permission to make this report; to Capt. G. Harper-Smith, R.A.M.C., for valuable help in collecting cases which had suffered from malaria; to Capt. H. A. Scholberg, R.A.M.C., Pathologist to this hospital, for the Wassermann tests; to Dr. R. V. Stanford, M.Sc., Ph.D., Research Biochemist to the hospital, for his investigation and report on the nitrogen content of the cerebrospinal fluid; and to Mr. J. O. D. Wade, M.S., F.R.C.S., Consulting Surgeon to the hospital.

Cases illustrating briefly the Different Forms of Mental Disorder.

(1) *Imbecility.*—Pte. A. B—, æt. 20. Civil occupation—*nil*. Father in county asylum; mother healthy; brother and sister feeble-minded. Stunted growth; slight asymmetry of bullet-shaped head; features coarse; hair coarse and untrained; large flat ears with thin helix and Darwin's tubercle evident; palate

narrow and lofty. Unable to read or write; says "twice three=nine." Missing after short bombardment. Found wandering three days later, refusing to give account of his actions. Sent home "N.Y.D. Mental." Mischievous and irresponsible in hospital; behaviour improved with discipline. Boarded, discharged, and sent to his mother.

(2) *Congenital mental deficiency*.—Pte. C. D—, æt. 33, looks 16. Standard II at school. Helped father wood-cutting. Father, mother and brother insane. Normal height; no hair on face (on head fine and silky); prominent mammary glands; arms and thighs rounded. Pelvic girdle wider than shoulder girdle; rudimentary external genitalia; only one testicle descended; has never experienced sexual desire; voice high pitched. States he worked as a female domestic servant for some months. Simple and childish; depressed and apprehensive after exposure to shell-fire. Depression and apprehension disappeared in two months. Worked in ward kitchen; on parole; discharged to his home.

(3) *Moral insanity*.—Pte. E. F—, æt. 31. Standard III at school; casual labourer. father inebriate; brother epileptic. Had been in prison for theft. Apparently troublesome as a recruit: found with other men's property; reported by N.C.Os. as untruthful and unreliable; refused to obey orders. Court-martial; found "not responsible," and sent home as a mental case. Mischievous; could not be trusted. Outbursts of violent temper; broke much hospital glass; impulsive towards staff; attempted to escape; given to theft; little idea of right or wrong. Boarded, discharged, and certified for transfer to asylum.

(4) *Melancholia*.—Cpl. G. H—, æt. 29; single; clerk in drapery store. Parents and grandparents healthy; sister insane after childbirth. Contracted malaria; treated by large doses of quinine. Became very depressed; could not sleep; solitary and no desire to do anything; attempted suicide by cutting his throat. Anæmic and wasted on admission; refused his food; said he was "no use," and deserved to die because he had failed to do his duty. Sleeping badly; suffered from constipation and headaches. Put in bed on open-air verandah; on extra diet for two months with general massage during second month. Gradually improved; began to converse more freely and realise his condition. In three months from admission was up and about the garden; sleeping and eating well; helped nurses in ward; put on parole during afternoons. Had no recurrence of fever in hospital. Discharged after board to pre-war occupation.

(5) *Mania*.—Pte. I. J—, æt. 37; married; labourer. Father insane; mother inebriate. Previously discharged from asylum, 1910, after mania. Under fire periodically for three months; after attack by enemy began to run up and down trench shouting and laughing. Admitted in excited and exalted state; exaggerated movements of large joints; incoherent speech but answered questions as a rule. Continually banging on his door, and destructive to his bedding and clothing and neglectful in habits; singing snatches of popular songs without break during the night. Continuous hot baths at 100° F., starting at one hour daily and increased to several hours. Became quieter, and showed more attention; took his food better. In seven weeks walked round garden during morning; lost 17 lb. in weight since admission; extra diet (milk, eggs, etc.). Discharged recovered in five months, when his weight was 5 lb. above that on admission.

(6) *Manic-depressive insanity*.—Pte. K. L—, æt. 41; single; labourer. No history of insane heredity found; previous attacks 1907, 1910. In 1910 there is evidence that he was in a state of mania; in 1911 he was depressed, but was not certified. Admitted from overseas; exalted, excited, noisy, and restless; thin and pale. Became quiet in a few days, with occasional outbursts of excitement. In six weeks he seemed fairly well, and his discharge was considered, but he became dejected and solitary, and inclined to refuse his food. These symptoms increased, and he was discharged after board in seven months and certified.

(7) *Delusional insanity*.—Pte. M. N—, æt. 30; single; clerk. Mother's sister insane for two years; one brother-feeble minded; two healthy sisters. Had little sleep for four days during an advance in France. Reported to his N.C.O. that the men of his company were accusing him of being a German spy. Became very excited and resistive. Sent to Netley, and transferred next day. Suspicious and restless; made the same accusations as in France; saw hidden meanings in ordinary events referring to himself. These entirely disappeared after three months' rest and extra diet, and he was discharged recovered.

(8) *Confusional insanity*.—Pte. O. P—, æt. 27; single; draper's assistant. Father drank heavily before marriage. Was very upset by shell-fire, but did not complain. Began to sleep badly; found he could not carry out instructions owing to losing his memory. Remembers nothing more till he was on hospital ship; reported by M.O. to be confused and restless, refusing his food, and unable to account for himself. On admission he appeared to have improved, and said he thought the men noticed that he was a coward; he complained of frontal headaches and constipation. He was put to bed on verandah with extra diet. Gained 5 lb. in weight in one month; gradually improved and when allowed up, spent his time in the garden and helping nurses in ward. When discharged as recovered there were still some three or four days in France he could not account for.

(9) *Stupor*.—Pte. Q. R—, æt. 32; single; clerk. Reported sick with headaches and loss of energy; went back in the line; a week later was found wandering, unable to account for himself. When in hospital at the base became silent and anergic; lay in bed unable to help himself in any way; refused all food. Was in a state of complete stupor when admitted; lay still in bed staring at ceiling; insensitive to pain. Was anæsthetised; used his voice but did not speak. Did not improve, and after seven months was discharged to civil mental hospital.

(10) *General paralysis*.—Pte. W. X—, æt. 27; single; coalporter. Father alcoholic. Contracted syphilis 1911; enlisted 1914; served in Gallipoli and France. October, 1918, became very excited, exalted in manner, and emotional. On admission restless, destructive to clothing, and neglectful in habits. Pupils unequal, L. > R., very sluggish to light; knee-jerks exaggerated; much loss of muscle tone. Romberg's sign; face expressionless; speech slurred; paresis of lips and buccinator right side; tremors of hands and tongue. Wassermann + in serum and cerebro-spinal fluid. Nonne-Apelt +, N.N. 28. Cell count = 25 per c.mm. At times he stated he was "King of France," and at others, "Lord of the Earth." He was degraded in habits, and tore his bedding. In this state he was discharged to an asylum.

(11) *Cerebral syphilis*.—Pte. B. A—, æt. 33; single; painter. Father in asylum twice "through drink." Contracted syphilis 1914. Served in Egypt and Palestine. Reported dull and lethargic; and complaining of headache and malaise; unable to do his duties, October, 1918. Admitted in a state of confusion. Pupils equal and contracted, reacted little to light; knee-jerks diminished equally; tremors of hands and tongue; memory very defective. Sat about all day unable to occupy himself; slept heavily at night; became demented fairly rapidly, and neglected himself in every way. Wassermann test was — in serum, and "retarded" only in cerebro-spinal fluid. One month later cerebro-spinal fluid was —. He was discharged in this state to an asylum.

(12) *Dementia præcox*.—Capt. B. B—, æt. 26; single; 6th form, public school. Eleven years ago when Resident House-Physician at Bethlem Royal Hospital, London, we knew his father as a G.P.I. He died there. Strong healthy lad with no stigmata. When overseas became suspicious, and wandered about alone. On admission he was suffering from visual and auditory hallucinations; was destructive to his clothing, and faulty in habits; would attempt to stand on his head, and strike various stereotyped attitudes. He was negativistic; rather exalted, and inclined to be impulsive; spoke in a pedantic manner with staccato voice; lapsed frequently into a state of confusion. There was no loss of perception-power. He was kept in bed at first, and had extract of pituitary in small doses. He became more reasonable though peculiar antics continued. He was transferred to a private institution.

(13) *Insanity with brain lesion*.—Cpl. B. C—, æt. 28; single; clerk. No neuropathic inheritance; previously healthy. Shrapnel wound left temporo-sphenoidal region six months previously; healed on admission. Complained of dizziness and acute headache over whole of left side; loss of memory, and inability to collect his thoughts; was confused, depressed, and unable to give a connected account of himself. X-ray showed foreign body just above the left lateral sinus. Operated on by Mr. J. O. D. Wade, M.S., F.R.C.S., Consulting Surgeon to the hospital. Foreign body removed; wound drained; healed rapidly. Headaches gradually disappeared; memory returned almost completely; no attacks of vertigo. Patient discharged recovered to his previous occupation.

(14) *Hysteria*.

Conversion hysteria.—Pte. B. F—, æt. 33; married; three children; photographer. Wounded slightly in leg, June, 1918; under shell-fire for long periods.

Reported to have become very excitable, and complaining of great pain over scar; was tremulous and restless; seven days later he became mute. In this condition he was admitted. He would write readily. He complained of frontal headaches and dizziness; he was hypochondriacal generally; he would often limp with the leg that had been wounded. He was examined by the consulting surgeon who found no cause for limping. Pupils large and very sensitive; knee-jerks very exaggerated; other reflexes normal. Several attempts were made to get him to speak, and finally, after about six weeks, he was persuaded that he could speak, and after repeating a few words could string a sentence together. He contracted influenza, and again became mute for five or six days, but there was less difficulty then in persuading him that he had not lost his voice. He had no further trouble when he got up after the attack of influenza, and appeared to have forgotten the scar on his leg.

Anxiety hysteria.—Cpl. B. G—, æt 29; single; butcher's help. Reported to have had "fits" in France. Admitted in a state of confusion; stated that he remembers waking up from a dream, and being shouted at and shaken by some orderlies and a nurse; this was after a bombardment. On admission he was very shaky and timid; pulse rapid and rather full; hands were cold and blue and trembling. Was possessed of some unreasoning fear; had to be reassured as to the identity of strangers, where he was going, and who would be there, etc. He had headaches, and said the "light hurt his eyes." He dreamed every night of being forced to kill someone; confessed to the chaplain that he had killed one of the enemy, and could not "get over it"; there was very slight bilateral thyroid enlargement, which he was certain had not existed before the war; his terrifying dreams persisted, nor could he reconcile with his conscience the fact of his having shot one of the enemy. He slept badly, and had obviously lost weight. He was put to bed on the verandah, with extra diet; rarely was he given any sedative at night. General massage was applied, and his colour improved; the pulse became steadier, and he was soon sleeping better, but it was some ten weeks before he entirely lost his dreams, and could discuss having killed one of the enemy without signs of distress. It is of interest that the thyroid enlargement had almost disappeared in three months.

(15) *Psychasthenia.*—Pte. B. H—, æt. 31; married; clerk. Had been an athlete. Was in much fighting in 1915; did not get wounded. In 1917 a shell fell outside the hut he was in, and blew in a portion of the side. He was writing to his wife. The letter was destroyed by *débris*, but he was not hurt beyond being shaken. Next day he believed the destruction of the letter he was writing symbolised the death of his wife at home at that time. He became sleepless, and obsessed with this one idea. On admission he was pale, and appeared exhausted; his sleeping improved, and he became less restless; he told me he thought his wife must be dead; it is true he had not heard from her since his "shock." His wife was sent for, and beyond an almost constant fear of losing her he rapidly improved. He gained over a stone in weight during his five months in hospital. He was then sent home with his wife, and wrote since to say that he was back in his "old job," feeling "very much better."

December, 1919.—Since the completion of the above report the Mental Division has been closed.

There were remaining resident on October 1st, 1919, 279 men, and since that date 86 more have been admitted.

Total discharges and transfers from October 1st, 1919, to December 10th, 1919: 365. Total admissions from September, 1917, to December, 1919: officers, 19; other ranks, 1840.

Disposal:

| | | | | | | | |
|-----------------|---|---|----------|----|---|-------------|-------|
| Total recovered | . | . | Officers | 15 | . | Other ranks | 914 |
| " certified | . | . | " | 3 | . | " | 533 |
| " died | . | . | " | — | . | " | 36 |
| " transfers | . | . | " | 1 | . | " | 352 |
| " absentees | . | . | " | — | . | " | 5 |
| Total | . | . | " | 19 | . | " | 1,840 |

Occasional Note.

*The Annual Meeting of the British Medical Association—Section of
Neurology and Psychiatry.*

The success of the Section of Neurology and Psychiatry at the meeting of the British Medical Association at Cambridge in July afforded abundant evidence of the increased interest in the problems of mental and nervous disorder. The excellent arrangement, by means of which the members of the Section were entertained at Trinity College, did much to promote the success of the meeting, in so far as a number of informal gatherings and discussions were rendered possible, and the opportunity was afforded for the development of social relationships between workers in different fields of interest. The Section was, furthermore, especially fortunate in having Dr. Henry Head as its President. The influence of his personality was a constant source of inspiration, and his wide and vigorous outlook served to create an atmosphere of enthusiasm, which was sustained throughout the discussions.

In his opening address on the early signs and symptoms of nervous disease Dr. Head approached the subject from the broadest aspect, and emphasised the necessity for the formulation of basic conceptions and general principles in relation to nervous disorder. Especially interesting to psychiatrists were his observations on what constitutes a "disease" of the nervous system. The following sentences from the address express the feeling of many in respect to mental disorder: "Many physicians seem to consider that morbid manifestations can be divided into definite 'diseases,' and discuss their distinctive characters with the solemnity of a botanist of the old school debating the limits of species. They assume that when they have given a name to some morbid condition a diagnosis has been made. This fallacy is apparent in all official nomenclature of disease. Diagnosis to be complete must be a three-fold process. First, by careful examination we elucidate the nature and extent of the loss of function which constitutes the morbid condition. Next, we translate these symptoms and signs into terms of some local affection; if there is reason to believe that they are due to organic destruction, we seek to determine the situation of such gross changes. Finally, if possible, we must discover the nature of the underlying pathological process."

Much more than neurology has the progress of psychiatry undoubtedly been hampered by the "disease-entity" incubus, and the above observations were singularly relevant to the discussion on dementia præcox and its relation to other disorders, which was opened by

Dr. Bernard Hart on the following day. In a comprehensive and judicial survey of his subject Dr. Hart confined himself to its broader aspects, and emphasised the fact that the nature and causation of the condition had still to be made known, and that even the question as to whether or not it was a definite entity had not been adequately solved. He expressed the view that any adequate formulation of the essential nature of dementia præcox must combine both physiogenic and psychogenic aspects, and this could best result from a consideration of the disorder of dementia from the point of view of biological reaction. In the interesting discussion which followed, in which Dr. Bedford Pierce, Sir Frederick Mott and many others took part, the practical side of the question was emphasised, and the general impression created was that of considerable dissatisfaction with the clinical implications which the term "dementia præcox" conveys. It was pointed out by various speakers that the diagnosis of dementia præcox, based upon a careful survey of the symptoms, was frequently made; and yet these cases were often found to make a satisfactory recovery. Such expressions of opinion, based upon actual clinical experience, are of considerable significance; and they constitute a striking instance of the fallacy, to which Dr. Head referred, of regarding the attachment of a name to a group of symptoms as constituting a diagnosis. That a large number of cases of mental disorder in young people—and older ones—exhibit a tendency towards progressive mental deterioration, which is characterised by defects of interest, incongruity between the thought processes and the affective and emotional reactions, and feelings of being influenced and controlled, is of course indisputable. To regard, however, the presence of schizophrenic symptoms as necessarily indicative of a deteriorating psychosis is more than the facts warrant. Not only katatonic and acute hallucinatory states but also paranoid conditions, with hallucinations, passivity states, and ideas of reference, are frequently of a temporary and benign character. The prognosis cannot be estimated solely upon symptoms; the personality or soil on which the symptoms are engrafted, their relation to situations to which the individual has had to adapt himself, the suddenness of the onset, and so on are all factors which have to be considered in each separate case before estimating the possibility of recovery. The erroneous significance which may be attributed to mental symptoms finds a parallel in the sphere of neurology, as the following reference to Dr. Head's address indicates: "When the great toe moves upwards and the inner hamstrings contract on scratching the sole of the foot, we can assume that the normal activity of the pyramidal tract is disturbed; but this sign is no evidence of the existence of organic changes. It may be an early indication of structural disease, or, on the other hand, a purely transitory disorder of function, as, for example, after an epileptic

convulsion. In both cases the reaction is identical, but its prognostic significance is fundamentally different."

Further light was shed upon the obscure problem of dementia præcox by Sir Frederick Mott's demonstration on his recent pathological researches.⁽¹⁾ These findings are of extreme significance and do much to illuminate the clinical and psychological conceptions of the disorder. It is only by intensive research from all angles that a truly biological conception of dementia præcox can be formulated, and scarcely any problem in medicine is deserving of more attention.

The further proceedings can here only be enumerated. Dr. T. A. Ross opened a discussion on psychotherapy; Dr. Greenfield demonstrated sections of peripheral nerves at different stages of regeneration; Dr. Prideaux, psycho-galvanic reactions; Dr. Scripture, speech registration in nervous disorder; Drs. Head and Riddock, sensory alterations in the hand from cortical injuries; and Dr. Buzzard and Dr. Greenfield, the pathological changes in the nervous system in encephalitis lethargica.

We feel that the subjects for discussion were particularly well chosen, in that they afforded an opportunity for the discussion of broad principles in relation to the intimately related subjects—insanity, psychoneurosis and nervous disease. In this short survey we have designedly hinted at the possible application of the principles indicated by Dr. Head, in his opening address, to the problems of more immediate interest to the psychiatrist, since we feel our conceptions are capable of much illumination by the neurologist and that the problems of personality have to be met in both neurological and psychiatric work. It is abundantly evident that it is impossible for psychiatry to attain its full development as a narrow specialty, and it must remain in closest contact with work in other spheres of medical interest. Perhaps this meeting may be regarded as the symbol of a changed atmosphere in the attitude of the medical profession with respect to mental disorder. It would certainly seem to indicate that the relative isolation from the main current of medical thought, which has had such an unfavourable influence upon the specialty with which this Journal is more immediately concerned, is now fast becoming a thing of the past.

(¹) *Vide Proc. Roy. Soc. Med.*, 1920, vol. xiii (Sect. of Psychiatry), pp. 25-63.

Part II.—Reviews.

Sammlung Kleiner Schriften zur Neurosenlehre (Collection of Short Contributions to the Doctrine of the Neuroses). Fourth series. By S. FREUD. Leipzig and Vienna: Heller & Co., 1918. Pp. 717.

The contest between the champions and the opponents of psycho-analysis apparently shows no signs of abating, although it may well be that the last word will not lie with the extremists on either side. In the meanwhile, without waiting for that harmonious solution, it cannot be too often repeated that even those who have no intention and no wish to become psycho-analysts cannot afford to neglect altogether to obtain some direct knowledge of the work of the man who—whatever may be thought of some of his present or former disciples—remains the powerful originator of a highly remarkable revolutionary movement in both morbid and normal psychology. To the end of such knowledge none of Freud's writings are so well adapted as the successive volumes published under the above title. They are short, they are highly varied, they frequently deal with fundamental problems, they are at times interestingly personal, and they may usually be grasped without too severe an intellectual effort. This latest series, a very substantial volume, contains no fewer than thirty-two studies, dating from the years 1912 to 1918.

There are some for all tastes, though a few will only appeal to the most specialised psycho-analyst. We find, for instance, "The Disposition to Compulsive Neurosis," "A Case of Paranoia contradicting the Psycho-analytic Theory," "The Transposition of Impulses in Anal Eroticism," "False Reminiscence in Psycho-analytic Work," "The Conception of the Unconscious," "Fairy Tales in Dreams," "Mythological Parallels to an Obsessional Idea," three "Contributions to the Psychology of the Love-life," "Grief and Melancholia," six papers on "The Technique of Psycho-analysis," "The Motive of the Casket Choice," "On War and Death," "A Childhood Recollection in Goethe's 'Dichtung und Wahrheit,'" and so on, the final paper—the only detailed case brought forward in the volume—being the "History of an Infantile Neurosis," covering forty pages, here first published and put forward as a fragmentary by-product in the psycho-analytic investigation of an adult case.

It is impossible here to touch on all of these papers, but a few may be specially mentioned. The first, on the history of the psycho-analytic movement, the growth of Freud's doctrines and his relations to Adler and Jung, is, from the personal point of view, much the most interesting in the volume; it was epitomised in this Journal when first published in 1914. The second study is a valuable and comprehensive discussion of narcissism and of the large place it has gradually acquired in the psycho-analytic scheme, from being, before Freud adopted it, simply an auto-erotic perversion, in which the subject treated his own body as an object of sexual interest and admiration, until it has finally become regarded in the psycho-analytic system as a normal stage in the orderly sexual development of human beings generally, "no longer a perversion, but the libidinous complement to

the egoism of the self-maintaining impulse which is the proper inheritance of every living creature." The justification of the wider application of narcissism was first found in the need for a psycho-analytic explanation of dementia præcox (paraphrenia in Freud's terminology). Megalomania and aversion of interest from the outer world being taken as fundamental traits of the paraphrenic, narcissism is regarded as expressing the new aims and satisfaction of those impulses. It is further argued that both among primitive peoples and among children various traits may be noted which are to be considered an expression of narcissism, which is viewed as distinct from auto-erotism, representing a further stage of development, though the exact mode of defining the difference is regarded by Freud as a difficult and delicate problem. He points out two roads, however, by which he considers that the knowledge of narcissism may be increased: (1) the study of hypochondria, and (2) the consideration of the love-life of the sexes. Freud finds "a fragment of hypochondria in all neuroses," and associates it with a hypersensitive erogeneity which may be paralleled with narcissism. The consideration of the normal sex-life leads to a more definite approach to narcissism. There are two types of sexual attraction—that which is based on the relation of the child to its mother or her protecting and nourishing substitute, by Freud termed the leaning-type, and the more perverted and often homosexual type, which finds its primary object, not in the mother, but in its own person. "It is in this observation that we find the strongest of the motives which compel us to accept narcissism." We have thus to recognise that there are two primary sexual objects—the person himself and the protecting woman—and we must accept the possible primary narcissism of any individual, perhaps to become eventually dominant in his object-choice. There is a difference, however, to be recognised between men and women. While the boy at puberty tends to transfer his primary over-valuation of self to his sexual object, the girl at puberty, with the development of the latent sexual organs, more frequently and perhaps in the most genuinely feminine type shows an increase of the original narcissism, "with a self-satisfaction in her bearing which compensates for her impaired freedom in object-choice." Such women love themselves with the same intensity that men love them; they do not wish to love but to be loved, and the man who fulfils this condition is the man who pleases them. They are often highly attractive to men. But at the same time much of the dissatisfaction of men in love, their doubts, their complaints over the riddle of women, are caused by this feminine narcissism. There are women, however, Freud adds, who love in the masculine way, and, moreover, women are often delivered from narcissism by the child which, being a part of their own bodies, is fitted to become an object of love by natural transition.

The theme may be said to be continued in a later series of "Contributions to the Psychology of the Love-life." In the first of these a special type of sexual choice in men is investigated. The man of this type is impelled to make three demands as a condition for loving: (1) there must be an injured third party—lover, husband, or friend; (2) the beloved must not be pure and virginal, but approximate to the courtesan and be always an object of jealousy; (3) he must be able to

exercise an impulse to "save" her. This attitude is regarded as due to infantile fixation of tenderness on the mother, even the desired courtesan element being traced to the child's discovery that his mother has led that physical sex-life which he has been taught to look upon as low. The next chapter deals with psychic impotence, which Freud regards as so common as to be almost a trait of our civilisation. He connects it with "incestuous" fixation of affection in childhood on the mother or sister, arrest of development and consequent disharmony of the tender and sensual factors of love, leading to a tendency for the love impulse to go out towards inferior objects. The chapter concludes with reflections on the possibility that a high culture is unfavourable to the proper development of the love-life, and it is pointed out that the emotion in women corresponding to psychic impotence is the demand for the stimulus of the forbidden. The next chapter, which has an anthropological colouring, deals with the taboo of virginity, on the tendency among various people to assign to some other person than the husband the first intercourse with the wife. Freud considers that there really is a psychological ground for this custom, and that a resistance to the sexual life in the woman has to be overcome; there is not only the dread of pain but the opposition offered by her narcissism to be overcome, so that sex relations are apt at first to be for her a bitter deception. The husband, therefore, was wise who assigned to a priest or other functionary the duty of overcoming and diverting these reactions, which might otherwise have brought unhappiness on himself.

Turning from normal psychology to psycho-pathology, we may note a study of "Grief and Melancholia." Just as the dream presents the normal prototype of narcissistic psychic disturbances, so, Freud argues, we may attempt to illuminate the nature of melancholia by comparing it with normal grief. In grief it is the world which, by the loss of some beloved object, has become poor and empty; in melancholia the loss is felt as having taken place in the ego itself, which seems to have become unworthy. But if we listen patiently to the manifold self-accusations of the melancholic, we cannot escape the impression that they often do not fit the patient's own person, but with a little modification quite fairly fit some person whom he loves, has loved, or ought to love. Investigation confirms this impression. So we have in our hands the key to the picture presented by the disorder: the self-accusations are reproaches really directed to the object and turned against the patient's own ego. The wife who loudly bewails the fate of her husband bound to so unworthy a mate is really accusing her husband of unworthiness, whatever may be its form. The process can be reconstructed. There was a choice of object; love was bound up with a particular person; by the influence of some mortification or disillusion the object of love is shattered. The normal result, the transfer of love to some other object, fails to follow, and the *libido* withdraws into the ego. There an identification takes place with the abandoned object, and the ego is judged as that object is judged. So that instead of, as in grief, a loss in the object, there is a loss in the ego. It would seem, Freud remarks in agreement with Rank, that the object-choice originally took place on a narcissistic foundation, so that when the shock of deception comes, there is a regression to narcissism,

and the love-relation with the beloved object, in spite of the conflict, still subsists in a new form. Identification is the preliminary stage of object-choice and in its expression is ambivalent. There is a desire to incorporate the beloved object, in the oral and cannibalistic phase, in a way corresponding to eating; Freud agrees with Abraham that this must be explained the melancholic's refusal of food. The love-adaptation of the melancholic to its object has, however, experienced a two-fold fate: it has partly regressed to identification, but it has also partly returned, under the influence of an ambivalent conflict, to the stage of sadism. It is this sadism which explains the tendency of the melancholic to suicide. "The analysis of melancholia teaches us that the ego can only kill itself when by the return of the object-adaptation on to itself it regards itself as an object, and so can direct its hostility against itself." The most remarkable trait of melancholia is its tendency to develop into mania, so that the analytic explanation of melancholia must cover mania. That, Freud admits, is not quite easy to effect. He cannot go beyond "a first orientation." When one has succeeded by one stroke in releasing oneself from some long-continued pressure there is a feeling of triumph. Mania is just such a triumph, only the ego is unaware of what it has conquered and why it triumphs. The manic person is demonstrating to us his freedom from the object which has caused his suffering. This part of the explanation Freud regards as not more than "plausible," but the whole paper is a brilliant example of his virtuosity in devising a dynamic mechanism for psycho-pathological states.

Some sections of the volume will appeal chiefly to the specialist psycho-analytic reader. This is the case, for instance, with two papers which form part of "Prolegomena to a Metapsychology," meant to clarify and deepen the theoretical assumptions beneath the psycho-analytic system. These papers are highly vague and abstract; they make much play with the "polarities" and "ambivalencies" which pleased the old German metaphysicians, and to many readers it will probably seem, indeed, that (to parody Milton) the new metapsychology is but the old metaphysics writ large. Freud himself seems to have had a suspicion of this, for he has abandoned his original intention of developing these papers into a volume. Other papers that appeal to the specialist are the series of "Further Counsels on Technique." There is here, however, much wise advice which may be appreciated by many who are not psycho-analysts.

A paper that stands by itself is entitled "Reflections on War and Death" (it has been translated by Dr. Brill, and published in a small volume by Moffat, Yard & Co., of New York). Written in the midst of the great conflict, it is a thoughtful discussion in a large though psycho-analytic spirit of some of the problems raised by the war. There is an absence throughout of any harsh, bitter or contemptuous reference to the enemies of the author's country. He retains his racial internationalism (as it may be) unimpaired.

It has only been possible to touch on a few of the rich contents of this large volume. The portions of the volume which remain are of at least equal interest and value alike to the psychologist and the psycho-pathologist.

HAVELOCK ELLIS.

Mind and its Disorders: A Text-Book for Students and Practitioners of Medicine. By W. H. B. STODDART, M.D., F.R.C.P. London: H. K. Lewis & Co., 1919. Third edition. Demy 8vo. Pp. 580. With 81 illustrations. Price 18s. net.

In this new edition of his text-book Dr. Stoddart says he has fundamentally changed his attitude towards mental disease, having personally investigated very many patients by the psycho-analytic method and thus been convinced of the truth of Freud's doctrines. He has endeavoured to indicate the psychical mechanisms underlying the various maladies, and he has done this with a sense of proportion.

He is not one of those who think that the war has added much to our knowledge of mental disorder. It has been responsible for a large number of cases of functional nervous disease, and has thus stimulated interest in and study of such maladies, but, so far as he is aware, none of the war cases underwent a deep psycho-analysis.

He has revised his classification of mental disorders, and has added new chapters on the anxiety neurosis and paraphrenia.

In his chapter on general paralysis he expresses the opinion that the treatment by intraspinal and intra-cranial injections of salvarsanised serum and similar preparations has been overrated, but he gives an extended account of these as well as other modern methods of treatment.

In view of some of the difficulties of regarding this disease as a mere syphilis, he suggests that the spirochæte of general paralysis (and tabes dorsalis) is specific, and that in spite of its biological resemblances to that of syphilis the two are not identical. According to this view general paralysis is a specific (venereal) disease, and general paralytics who exhibit the ordinary manifestations of true syphilis must be regarded as having contracted two separate specific diseases, *viz.*, general paralysis and syphilis.

In his account of the morbid anatomy of general paralysis some points invite comment: (1) He says that "well-marked atheroma aortæ occurs in about 35 *per cent.* of the cases and slight atheroma or endarteritis in about 45 *per cent.*" This surely is an inadequate indication of the frequency of syphilitic aortitis in this disease. (2) Of course he mentions granularity of the ependyma of the ventricles, "best seen, when present, in the floor of the fourth ventricle"; but he omits the important point about this. In a great variety of conditions granularity is often found near the lateral angles: in this disease it is most marked in the calamus. A granularity of this ventricle most marked in the calamus is, of all the naked-eye morbid appearances in general paralysis, the most constant, and this disease is practically the only one in which it is found, at any rate in this country. (3) He says that decortication on stripping the pia from the cerebrum is "absolutely characteristic of a general paralytic brain, provided that the interval between death and the autopsy is not much prolonged." The statement requires considerable qualification. In other conditions decortication is not very rare, apart from delay of the autopsy; and in some cases of general paralysis it does not occur. Dr. Stoddart says nothing about regional distribution of decortication; so though his book was, in the first instance, designed to induce the reader to think neurologically, it ignores the instructive variations of this distribution. A

reference in this connection to Flechsig's myelination diagrams would have roused the student's curiosity to useful purpose. (Incidentally, a hint as to the neatest and easiest way of stripping a fresh hemisphere would have been a useful addition; through inattention to the arterial supply this little procedure is often bungled, and not by beginners only.)

Dr. Stoddart's account of the ætiology and pathogenesis of general paralysis is directed mainly to such considerations as he can adduce to emphasise the importance of the part played by the spirochæte. Of the difficulties of attributing the disease entirely to an infection, of whatever sort, he points out only that there is no record of any asylum pathologist or attendant on the insane having contracted general paralysis from one of his patients.

But the book as a whole is by no means one-sided; and as Dr. Stoddart has been at great pains to bring it once more in many ways up to date, it has a wide sphere of assured usefulness.

SYDNEY J. COLE.

Military Psychiatry in Peace and War. By C. STANFORD READ, M.D., Lond., late Major R.A.M.C., Officer in Charge, "D" Block, Netley. London: H. K. Lewis & Co., Ltd., 1920. Pp. vi+168. Price 10s. 6d. net.

As medical officer of "D" Block, Netley, Dr. Stanford Read had an exceptionally wide experience of acute mental cases. All the psychotic cases occurring in the oversea troops passed through this hospital before their disposal in various directions, and Dr. Read states that from August, 1914, to May, 1919, the admissions amounted to 12,320, of which 331 were officers and 11,989 N.C.Os. and men. This work is chiefly based upon the study of 3,000 consecutive cases which were admitted during the year 1917, and since the author states, "I have followed up their careers nearly twelve months later by visiting the various war mental hospitals to which they had been transferred, and have made statistical notes thereon," it is apparent that this volume is the product of very arduous work and research undertaken at a time when the ordinary official routine must in itself have been exceptionally heavy. The fact that Dr. Read has by this investigation been in a position to supply data as to the end-results of his cases considerably enhances the value of his book, especially as a similar opportunity is unlikely to occur again for some time—or at least we may venture to hope so.

The opening chapter in which the author deals with the psychology of the soldier indicates the line of approach which he finds most illuminating in the study of his clinical material. He furnishes an excellent study of the influence of the war situation, with its new demands and stressful experiences, on the personality of the new recruit fresh from civilian life, and throughout the book his cases are consistently presented in terms of reaction to environment, and he endeavours to explain the various symptom-pictures—apart from the frankly organic psychoses—as the product of mental conflicts and psychogenetic factors. He develops the question of psychogenesis at some length in relation to the "exhaustion psychoses," and he suggests

that the "stress and strain" factor—mental and physical exhaustion—will not produce mental symptoms apart from other factors being involved. He says, "Continued war experience has only served to undermine more and more the position of the so-called exhaustion psychoses in psychiatric nosology," and he indicates that while some confusional states are toxic in origin, and associated with malaria, sunstroke or dysentery, "many confusions are undoubtedly psychological in origin, such as those we see so commonly associated with mental deficiency. Maladaptable mentalities, when called upon more or less suddenly to face difficult and new situations, will naturally react in a confusional way from conflict of impulses. At times what is taken for confusion is really a dream state resulting from an inherent desire to negate reality." In dealing with paranoid states and alcoholic psychoses, Dr. Read finds himself in agreement with the Freudian viewpoint in relation to these types of disorder.

In discussing the wider aspects of the treatment of mental disorder in the light of war experience we are glad that Dr. Read does not feel called upon to make comparisons between the recovery-rate in war mental hospitals and that of civilian asylums. Comparisons of this kind are apt to be made, and they are not only unfair, but they are necessarily unscientific. The clinical material in war hospitals was of necessity much more favourable in respect to recovery than that found in civilian hospitals, especially as many war cases were purely reactive and the product of unusual stress, the removal of which readily resulted in recovery.

We can thoroughly recommend this book, and while some of its readers may not find themselves in complete agreement with all the views of the author, they will certainly find in it much information of value, and a particularly clear and concise presentation of the various forms of mental disorder from the psychogenetic viewpoint.

H. DEVINE.

Some Adaptive Difficulties found in School Children. By ESTHER L. RICHARDS, M.D. (*Mental Hygiene*, April, 1920.)

Articles by various medical writers have appeared of late putting forward a claim on the part of psychiatrists to exercise a wholesale direction over the education of the young. Some of these articles, being largely compounded of old familiar truths more or less emasculated by translation into modern psychologists' slang, together with some assumptions of doubtful validity and a surfeit of advice to educationists about things they understand at least as well as their would-be instructors, appear ill calculated to persuade the public to receive the psychiatrist into their homes or their schools, there perhaps to exhale "that most poisonous and degrading of all atmospheres—a medical atmosphere." Many of the failures and breakdowns of adult life, no doubt, originate in a misguided upbringing in childhood, and this the psychiatrist has particular reason to know; but supposing he is let loose in our schools, will it tend to the general good?

Dr. Richards' modest paper is welcome, because it goes some little way towards answering this question in terms of practical experience.

Her work was undertaken at Dr. Adolf Meyer's instigation. He had suggested that a school physician with training in psycho-pathology should attend regular conferences at which the management of problematic pupils is brought up and discussed, and that the instances calling for special study might then be taken up under the direction of the physician, perhaps by a teacher detailed for part of her time to make a study of the home situation and of all those facts which the physician needs for a thorough study of the individual.

These ideas Dr. Richards has been applying practically, at Public School 76, in the Locust Point district of Baltimore—a more or less isolated industrial community, devoid of coloured inhabitants, but largely of foreign extraction, and not uncommonly using the German, Polish and Hungarian languages in its homes. School 76 contains the majority of the children, enrolling about 800. Housed in a dilapidated building on the edge of a waste, not only has this school gradually come to be a sort of community centre for the Point and a beacon among the public schools of the city, but its achievements are not unknown to many people in other parts of the country. It is not the school “bank,” the classes for backward, defective, and tuberculous children, or even the full-blooded Parents-Teachers' Association that are so worthy of comment as is the fact that this school is peculiarly identified with the community from which it springs. Besides recognising the children's need of adequate opportunities for play, for self-expression through vocational training, music, school plays, etc., and for healthy amusement from clean, stimulating picture films, it recognises the parents' need of encouragement and guidance in the out-of-school problems of home environment and growth, as well as their need of understanding and helpful discussion of domestic anxieties and financial struggles.

The fifteen school months during which Dr. Richards' study was made were interrupted by three enforced school holidays of from two to eight weeks each, due to the influenza epidemic, the freezing and bursting of pipes, and finally the burning of the main building itself, with a consequent scattering of the children for temporary accommodation in other schools. These circumstances, and the fact that only two days a week could be given to the work, may, she says, “serve to comfort those who mourn that only forty-six children were seen during the above period.”

She devoted the first few weeks to a leisurely acquaintance with her new environment. There was no room-to-room canvass for difficulties of adaptation, or any other concerted activity. She strove to drive home the idea that she had not come to teach, nor yet to offer a new programme of reform, but merely to learn whether or not one accustomed to studying sources of failure in individual human beings could be of any help there. “And,” she asks, “what better way to answer this query and swing into the tide of school life than by drifting into class-rooms, enjoying their wealth of activities and reactions, and listening to the stories of teachers who bear the burden and heat of the day?”

We know that “drifting in,” distracting both teacher and taught. It is as if someone should ask to be present at a proposal of marriage, to see how it is done. However, Dr. Richards tells us that before long

her question box in the principal's office contained more requests for suggestions with regard to specific children than it was possible to compass. Of the forty-six children who came under observation, thirty-five were reported as having difficulty in keeping up with their grade in one or more subjects. Binet-Simon tests showed sixteen of these to have a mental retardation of from three to six years; and the academic troubles of the other nineteen were associated with, if not the disguised expression of, such faulty psycho-biological reactions as shyness, laziness, inattention, vicious tendencies, sensitiveness to criticism, day-dreaming, hypochondriacal fears with resulting irregular attendance. The eleven remaining from the total forty-six were referred for the more overt adaptive difficulties of tantrums, sullenness, crying spells, twitching, indifference, excitability, poor coordination with the hands, quarrelsomeness, etc.

In fourteen pages of tables Dr. Richards presents notes of all the forty-six cases. These notes provide not only school information, but valuable details of home life and out-of-school habits. The last two columns give her suggested modifications, and notes on the subsequent course. In fourteen of the cases she does not appear to have ventured any suggestions. In only two instances do her suggestions contain anything recognisable as medical advice, one being a case in which she suggested a Wassermann test, and the other a case in which she prescribed bromides and Fowler's solution. In the remaining cases her suggestions—eminently sensible, as far as we can judge—are such as could have been made, and indeed not uncommonly are made, by experienced school teachers who yet know nothing of psycho-pathology as it presents itself to the medical mind. Similarly, the case-notes contain none of the psycho-pathologist's jargon, and, except as regards the Binet-Simon tests, do not indicate the employment of any special technique. Did Dr. Richards, then, leave her psycho-pathology in the umbrella-stand in the hall? At any rate, she seems to have exercised a good deal of instinctive wisdom; and her paper, with its plain statements of fact and its impartial presentation of the whole of the case material, deserves minute study.

SYDNEY J. COLE.

The British Journal of Psychology. Monograph Supplement VI—Pleasure—Unpleasure: An Experimental Investigation on the Feeling-elements. By A. WOHLGEMUTH, D.Sc.Lond. Cambridge University Press. Royal 8vo. Pp. 252. Price 14s.

This monograph opens with an interesting *résumé* of the opinions of various authors on the subject of "feeling," in which the lack of uniformity in connection with the whole matter is apparent. The author states the various differences of opinion requiring settlement, and ends his introduction by giving his reasons for his preference for the introspection method in experimental work. The second part, which is experimental, gives exact details of the nature of his laboratory work. Four trained observers offered their services, and in Part III, headed "*Protocols*," each experiment is given in full. This part occupies 140 pages, and the records are there for others to form their conclusions. Part IV gives the results of the experiments, and in Part V these results

are summarised. The conclusions reached are embodied in 77 rules, and it is obviously impossible to deal with these in the present instance in any adequate manner. It is of interest to note that the author states that there are only two qualities of feeling-elements, *viz.*, pleasure and unpleasure, that unlike feeling-elements may co-exist in consciousness, and that opposite feeling-elements may fuse, sometimes tending to mutual neutralisation and sometimes without any neutralisation, producing in the latter case a "mixed feeling." To those interested in psychology this work will prove a veritable gold-mine so far as results can be obtained from introspection, and the author is to be congratulated on the manner in which he has summarised the mass of evidence obtained from his painstaking and careful experimental work. He expresses the hope that similar research may be conducted in pathological cases, and with this we cordially agree.

R. H. STEEN.

Psychothérapie. By Dr. ANDRÉ-THOMAS. Paris: Baillière & Fils, 1912. 8vo. Pp. 519. 12 frs.

This is one of twenty-eight volumes which constitute the Therapeutic Library, edited by Profs. A. Gilbert and P. Carnot. After a short preface by Prof. Dejerine and an introduction comes Part I, wherein the different methods used in psycho-therapy are described. In the first chapter of this part a complete account is given of suggestion in the waking state, hypnotism and auto-suggestion. The psycho-analysis of Freud is mentioned under the heading of "methods derived from hypnotism and suggestion"—a position which will be strongly resented by most psycho-analysts. Only four pages are allotted to this subject as compared with forty devoted to suggestion. Chapter II deals with persuasion in its rational, sentimental, religious and philosophic aspects. The next chapter discusses treatment by isolation.

The second part is devoted to the maladies in which psycho-therapy may be employed and the most useful methods in each case. It includes in a first section hysteria and neurasthenia and in a second section "mental" maladies, which would seem to imply that the author does not consider hysteria a mental disorder. In the third section the treatment of organic diseases of the nervous system is dealt with.

The book is closely printed and contains an immense amount of information on the subject—in fact it is more of an encyclopædia than a text-book. It were easy to criticise certain pages adversely—for example, the chapter on the treatment of obsessions, which adds little to our knowledge of the subject; and there are other parts in which the opinions expressed seem a trifle out of date. But it must be remembered that this publication first saw the light in 1912. At this time general medical opinion regarding psycho-therapy was less tolerant in its attitude than is the case to-day and in reality the writer was well in advance of his time.

Taking the volume as a whole our congratulations are due to Dr. André-Thomas for so successfully fulfilling his task, and for his industry in collecting so large a body of knowledge and presenting it in so easily accessible a form. We can only hope that a second edition will soon be called for, when the experience gained in the war can be embodied in the text.

La Psycho-analyse des Nevroses et des Psychoses. By E. RÉGIS and A. HESNARD. Paris: Felix Alcan. Pp. xii + 384. Price 3 fr. 50.

It would appear that the extension of the doctrine of psycho-analysis has not been so marked in France as in certain other countries. One of the reasons for this is the multiplicity of literature dealing with the subject and the difficulty experienced by the reader in understanding this colossal work by the aid of these very diverse publications, in the midst of which the principles of the doctrine lie scattered here and there. It must also be remembered that France is a Latin country and that all Freud's works are written in German; moreover, it is a well-known fact that Freud is not easy to understand, even for the expert in German.

In producing this book the authors had the following objects in view: (1) the translation of the fundamental principles of psycho-analysis into the French language, and (2) the introduction of light and harmony into the midst of this rather clumsy assemblage of ingenious and anomalous hypotheses.

The first part of the work contains, amongst others, chapters dealing with the dynamic theory, the sexual theory and the different methods of exploring the unconscious mentation, *viz.*, (i) the interpretation of dreams, (ii) free association, (iii) the word-association experiment, and (iv) the investigation of the errors and slips of every-day life. The second part principally deals with the psycho-analytic methods as applied to the neuroses and the psychoses, and with criticisms of the psycho-analytic treatment.

The book is, above all, a clear and concise exposition of the Freudian doctrine. A welcome feature is the lucid manner in which the technique is described; this subject, all too often, receives but scant attention by the majority of writers. In the chapter on dreams the theory of "regression" is rendered especially clear. Frequent use is made of Bleuler's expressive term "Pansexualism," which is employed to denote Freud's doctrine of the sexual instinct as the source of all psychic activity.

Prof. Régis and Dr. Hesnard being psychiatrists, their chapter on the application of psycho-analysis to the psychoses is particularly interesting. They point out that the treatment has had some degree of success in dementia præcox and paranoia, and they believe that its usefulness is capable of considerable extension in the domain of the other psychoses. Maeder, of the Zurich school, is quoted as saying the insane patient is the most suitable subject for psychological analysis, being, in spite of appearances, less inaccessible than the "neuropath" because he is more docile and more ready to confide in the doctor when the latter knows how to understand him. The Zurich doctors claim that they have brought about the amelioration of several of their insane patients, particularly those of the dementia præcox form of insanity. The absence of an index is somewhat disappointing, but a full "Table of Contents" and a highly systematic arrangement of the reading matter compensate to a great extent for this deficiency. The usefulness of this little book is enhanced by the inclusion of an appendix on the copious literature published in different countries on the subject.

NORMAN R. PHILLIPS.

Part III.—Epitome of Current Literature.

I. Psycho-Pathology.

An Account of the Witch Craze in Salem, with reference to some Modern Witch Crazes. (Arch. of Neur. and Psychiat., May, 1920.)
Potts, C. S.

In this Presidential Address to the Philadelphia Psychiatric Society, Potts recounts in considerable detail the story of the epidemic of accusations for witchcraft in Salem, Mass., in 1692. The craze began in the home of the Rev. S. Parris, pastor of the village church. His family consisted of a daughter, aged 9, a niece, aged 11, and a servant, Tituba, who was half Indian and half negro. Associated with these were four other girls, some of them belonging to prominent families. For purposes of amusement, Tituba, who had come from the West Indies, used to practise tricks and incantations common among the natives of her home. During these performances they did strange and unusual things, such as getting into holes, creeping under chairs, performing various antics and uttering ridiculous speeches. While it is natural for children to do such things more or less, they were not countenanced by their Puritan relatives and masters. Great, therefore, was the consternation when they learned of it. Dr. Griggs, the village physician, whose niece was one of the participants, was called, and not being able to make a diagnosis, he said, "They are possessed of the devil or bewitched." This, being noised about, caused the children to become objects of curiosity, which made them show off more. Mr. Parris called a meeting of ministers of the neighbourhood, who, after investigating and praying, unanimously concurred in the doctor's opinion. The supposed victims, threatened with severe discipline if they did not tell who had bewitched them, finally accused Tituba and two feeble old women. This was the beginning of a wholesale persecution. In four months two hundred and fifty persons were accused and put in gaol—no small percentage of the population. Nineteen of them were hanged and their property confiscated; two died in prison from bad treatment; one was tortured to death. Ultimately public opinion revolted, and in May, 1693, Governor Phips issued a proclamation releasing from custody all persons—about a hundred and fifty—held on the charge.

As to the psychology of the outbreak, Potts considers it was due to hysteria, fomented by religious fanaticism and lying, some of it possibly of the pathological type, but most of it malicious. The Puritans were a fanatical and bigoted people, who persecuted vigorously all who did not agree with their religious convictions, and this in spite of the fact that they themselves had come to America to escape religious persecution. But for the persecution of heretics, there would probably have been no persecution of witches. These people led a repressed life, and were therefore ripe for any orgy when the opportunity came.

A number of symptoms of hysteria were present. The influence of suggestion and the morbid desire for notoriety are apparent. Mimicry was frequent. Some had areas of anæsthesia or hyperæsthesia. These

symptoms were encouraged maliciously by older people. Begun by young girls who at first thought of nothing more than being pitied and indulged, the fraud was continued by adult persons who were afraid of being accused themselves. It is noteworthy that many of the accused had had difficulties with their neighbours.

It might be supposed that such a thing could not occur to-day. Potts believes that it is not only possible, but to a certain extent is already occurring. The uproar at the Salem trials reminds him of the newspaper accounts of the hearing on the question of Sunday music in Philadelphia before a committee of the legislature, when speakers in favour of the measure were hissed, vilified, and their voices drowned in the uproar made by their opponents, largely composed of clergymen. Potts says, "We are now suffering from a surfeit of legislation and proposed legislation regulating our habits, our business—in fact, practically everything good or bad that a person is liable to do." This State forbids playing any game of cards in a public resort. That one forbids buying a cigar on Sunday. A number have gravely dealt with the portentous question of giving tips. Every winter produces a sheaf of bills to regulate women's dress. Where the law requires a washer-woman's cook-stove to be assessed, and a millionaire's wife's diamonds are not assessed, the legislature is deeply engaged with the censorship of moving pictures. Where mob murders are a well recognised institution, the legislature is passing an act to regulate the length of hat-pins. A special target for legislative suppression is anything which may add to the pleasure and relaxation of the individual. Innumerable societies exist whose mission it is to regulate public and private institutions, private business, education—in fact, nothing escapes. Many of these organisations and individuals who are ambitious to have the world run according to their ideas, in order to gain their ends are guilty of false and reckless statements, of advocating the confiscation of legally owned property, of breaking laws themselves in order to capture those who in their opinion are breaking laws, and of vilifying and slandering those opposed to them. In all these ways they resemble those who prosecuted the Salem witches. A still more serious thing is that those whose duty it is to enforce the law engage in orgies of persecution in which people's rights are trampled on with impunity. In Newark, N.J., not long ago, policewomen were ordered to forcibly wash the faces of any girls on the street with painted cheeks, and to have them photographed as vampires. In New York, in 1918, a wave of hysterical morality caused the raiding of public hotels, apartment houses, restaurants and billiard rooms, with the arresting, without warrants, of 1,100 people. All this to find possible hidden vice. During the war, tavern keepers who had paid a license and whose capital was invested in their business were compelled to close without compensation, when located within certain prescribed areas. Tobacco is at present in serious danger of execution for witchcraft. In a number of States the sale, and even the smoking, of cigarettes is unlawful; in Kansas, newspapers and magazines advertising them cannot be publicly sold. It will be found that most lynchings and other outbreaks of mob violence occur in States most prone to freak legislation. One of the results of the peculiar state of mind now

afflicting so many of the author's compatriots is the meddling with the management of institutions such as prisons and hospitals for the insane. The officials of these institutions are very much in the position of the Salem witches.

Much is done now in the name of law, order, and progress that is not sane. The various crazes of to-day are an evidence of the unsettled minds of the community. They are therefore legitimate subjects for the attention of psychiatrists. Not a little of freak legislation is proposed by medical men, which makes it doubly important that we, as medical men and women who study especially mental diseases, should endeavour to guide such minds, both medical and lay, into proper channels.

SYDNEY J. COLE.

2. Clinical Psychiatry.

Dementia Præcox in Twins. [*Démence précoce gémellaire.*] (*L'Encéphale*, April, 1920.) Laignel-Lavastine and Boutet.

Twin sisters, æt. 37, were admitted at the same time into Sainte-Anne's Asylum in 1913; the diagnosis then made, *viz.*, "folie à deux," was, in the opinion of the authors, justifiable at first. One of the sisters, G., considered to be the active element in the "folie à deux," was the first to start delusions of persecution with false interpretations, and then auditory hallucinations; the other sister, B., developed delusions later. No sooner was G. transferred to another asylum than B., who was regarded as the passive element in the "folie à deux," recovered, or apparently recovered. Thus the first diagnosis seemed to be confirmed, but this did not take into account the subsequent course of the cases.

G. remained under certificates from 1913 until February, 1920, when she died of pneumonia. According to the last report made of her case, there was undoubted mental deterioration, but all the psychic functions were not equally affected; thus, though memory and ideation remained good, and attention was fairly well preserved, both the emotions and the reactions were much impaired. Indifference was the predominant feature of the case—she took no interest in anything, she was neglectful of her appearance, and completely inactive; she had various absurd delusions as well as hallucinations, but she showed no anxiety nor any violent reactions. It became quite clear that this was a case of dementia præcox.

B., though discharged from the asylum within three weeks of her admission in 1913, continued to be more or less deficient—in the words of a reliable informant: "She has never been quite normal since." In November, 1919, she was again brought to the asylum, where she still remains; the following symptoms—negativism, mannerisms, emotional indifference and inactivity—undoubtedly point, in her case also, to dementia præcox.

It is thus seen that the original diagnosis of "folie à deux" finally resolved itself into one of "dementia præcox in twins." Laignel-Lavastine, in a recent paper, insisted on the importance of recognising this particular variety of "familial dementia præcox," which was originally described by Soukhanoff.

In the discussion which followed, Dr. Arnaud described two exactly similar cases, which he and Dr. Pierre Janet have had under observation now for several years. It was likewise a question of twin sisters, who became afflicted at the same time with a syndrome consisting of a considerable impairment of affectivity, and also of volition, without any marked enfeeblement of the intellectual faculties at first. The principal characteristic of the one is apathy, and of the other, inertia. In short, both are cases of dementia præcox.

Dr. Laignel-Lavastine said that Dr. Arnaud's cases furnished yet another example of dementia præcox in twins, to be added to those cases of familial dementia præcox already recorded.

NORMAN R. PHILLIPS.

Nervous and Mental Disorders of Soldiers. (*The Amer. Journ. of Ins., April, 1920.*) Brown, Sanger.

An account is given of the administration of Base Hospital 8, where all cases, except those evacuated through England, were grouped for return to the United States. Some 6,093 cases passed through this hospital up to March 1st, 1918. They were grouped under the following headings: psychoses, 1,916; psycho-neuroses, 1,663; epilepsy, 752; constitutional psychopathic states, 634; mental deficiency, 524; organic nervous disease, 148.

Psychosis: An unusual type of reaction was met with and was referred to as "war psychosis." This reaction was met with in about one-fifth of all the cases. On admission these patients were bewildered, disorientated, inaccessible, and showed clouding of consciousness. There were active hallucinations of sight and hearing. They generally thought themselves at the front under fire and were anxious and apprehensive. This condition had some features in common with the psycho-neuroses, but the condition differed in that the patients were inaccessible and disorientated, with mood changes and no insight. Emotion and excitement seemed to play a prominent part in its production. The impression was that the prognosis was good. Another group resembles this in some respects. As a rule the patients had not been to the front. They were confused, rambling, disorientated, and presented the picture of delirium. The condition was regarded as one of hysterical delirium. Some cases of dementia præcox gave a history of symptoms previous to enlistment, others appeared to develop since. Depression was more commonly met with than elation in manic-depressives. Both showed a war colouring. *Psycho-neuroses*: These cases must be fully understood to be successfully treated, and the fact that they are disorders of the mind and not of the body must be fully appreciated. Two general types were recognized, those of ordinary civil-life type and those resulting from battle experiences. The former rarely reached the front. A number of cases of mental deficiency, epilepsy, and mental disease exhibited war neuroses, such as mutism, tremors or hysterical hemiplegia. *Epilepsy*: The constitutional make-up of the epileptic is of greater significance than the actual seizure. The disease should be interpreted as a severe degenerative neurosis, of which the seizure is not the most important symptom. Cases of epileptic equivalents were common. *The Amnesias*: A number of these were really cases of

epilepsy, others occurred after excessive use of alcohol, and others were hysterical in nature. The hysterical individual escaped from a difficult or intolerable situation by wiping out from memory all circumstances associated with it. *Constitutional psychopathic states*: These patients, while not suffering from frank mental disease, nevertheless were in a mental condition sufficiently abnormal to bring them into serious conflict with those about them. Some of these people might have made fair progress in civil life where they could have changed their environment, but in military service this was not possible. *Mental deficiency*: Many of the defectives were useful in labour battalions. Their emotional make-up and conduct were considered of more importance than the testing of their mental ages by scale. *Organic nervous diseases*: Peripheral neuritis after diphtheria, influenza or other toxic condition was frequently encountered. Syphilis of the C.N.S. was found in many cases, although comparatively few cases of general paralysis or tabes were observed. A number of patients presented mental symptoms or epileptiform seizures as the result of brain injury. *Encephalitis*: Symptoms of an epidemic encephalitis are given, which are very similar to those found in "lethargic encephalitis" of French and British writers. These patients, however, were not particularly dull and lethargic, and ptosis was not found as constantly.

C. W. FORSYTH.

The Rehabilitation in the Community of Patients paroled from Institutions for the Insane. (*The Amer. Journ. of Ins.*, January, 1919.) Clark, S. N.

The rehabilitation of patients must begin in the Mental Hospital. Information should be obtained in regard to the make-up of the individual and to the situations faced which led to the disturbance of behaviour. The patient should be fitted for active life by advice, instruction and habit formation. Patients after discharge should only be required to meet situations to which they can adequately react and to which they can make good adjustments. The apparent disinclinations of the improved dementia præcox are actually preservative, and he should not be asked to assume characteristics—the bearing of responsibility, a tendency to compete normally with others, etc.—which are absent. The patient must, however, be stimulated to some extent, otherwise progressive disinterest in the environment is apt to result. Each case must be treated as a distinct problem, but the general principles outlined must be kept in mind. On discharge some organisation—an out-patient department—should be available to carry out supervision. This should include a medical director, an examining division, a social service department, and, if desired, an occupation bureau. The medical director should co-ordinate the work of the department. The examining division would consist of medical men trained in psychiatry. The physician should advise the patient with regard to his activities, and watch for evidences, such as irritability, depression, insomnia, functional pain, etc., that he is finding difficulty in meeting the situation adequately. If unusual problems arise an attempt should be made to aid him to weather the storm. The work of the social service department ought to include investigation of the

conditions of the patient's home before discharge. If necessary the members of the family ought to be educated in the understanding of the disorder and of the factors which might cause future attacks. Occasionally it may seem unwise to return the patient to his former home. The social life, recreation, and avocations should be considered with the aim of directing as far as is possible the activities of the patient. The experiences and preference of the patient must be weighed in the choice of employment. There is the question of control of the patient. Parole should be granted with the understanding that he should visit the out-patient department and abide by the advice given there. Our aim should be to aid the patient in arriving at an understanding of his limitations so that he will attempt only those activities to which he may continuously react safely.

C. W. FORSYTH.

A Case of Myxædematous Psychosis.—Clinical and Pathological Report.
(*Arch. of Neurol. and Psychiat.*, March, 1920.) Uyematsu, S.

The principal clinical features in this case were: vertigo, Rombergism, disturbance of co-ordination, diminution of reflexes, general œdema, arterio-sclerosis, sparseness of hair, bradycardia and slow respiration. Mentally, there was depression, dulness, apathy, lack of emotional reaction, somnolence, thickness of speech, and disorientation in time. *Post-mortem*, the thyroid gland was atrophied, with lymph-cell infiltration, and the isthmus was absent. The parathyroids could not be identified. The pituitary body was small. Right oöphorectomy had been performed and there was chronic left ovaritis. The brain and cerebellum were irregularly atrophied and œdematous. Arteriosclerosis and general senile changes were present and a variety of cell changes were observed, the most noticeable being vacuolation, which was considered pathognomonic.

The author attributes the senile changes present to the effect of hypothyroidism, and considers that there may be some ætiological relationship between the congenital factor of absence of the thyroid isthmus and this disease. Disease of the ovaries is suggested as another ætiological factor, this condition having been found in a previous case. There is a possible correlation between atrophy of the cerebellum and the clinical symptoms of disturbance of co-ordination and vertigo.

F. E. STOKES.

3. Treatment of Insanity.

The Care of Sane Epileptic Children. (Brochure pub. by John Bale, Sons & Danielsson, Ltd., 1920.) Fox, J. Tylor.

The writer discusses some aspects of the treatment and general care of sane epileptic children in a residential colony, and records some of his impressions and observations as Medical Superintendent of the Colony at Lingfield. Out of over 330 epileptics there, 167 have not yet reached their sixteenth birthday. These are housed in six separate homes; there is a hospital for serious illness, a school building with extensive gardens, and a central hall or chapel. The cases are selected from a large number of applicants, but the only ground of rejection is

feeble-mindedness of such a degree that the child is not likely to benefit by the education provided.

The majority of English homes are unsuitable for epileptic children to live in. The epileptic, especially if he shows mental peculiarities, is regarded by the household as abnormal, and the regard of others has its subjective effect. The parents, to avoid trouble and anxiety, tend to keep the child indoors, to the detriment of his health. Often they themselves are mentally abnormal, and unfit for the care of their epileptic offspring. In life on a colony, fits are accepted as ordinary occurrences, physical dangers are readily guarded against, and adequate supervision by day and night is assured. An outdoor life, open windows, daily baths and a suitable diet are accepted essentials. Success of the scheme depends chiefly on the character of the staff who come in daily contact with the patients. Those who are successful with epileptic children are born, not made. Nursing experience and educational training may supplement, but cannot supply what is not there.

The most cogent objection to colony treatment is the elimination of family intimacy from the child's life. Dr. Fox thinks this objection probably less serious for epileptics than for most children. Partly to meet it by reducing the size of the home units of the colony would entail a very large staff. It might be mitigated by frequent holidays at home, but these often lead to recurrence or increase of fits, and in any case interfere with the rhythm so important in the epileptic environment.

The accommodation of adult epileptics on the same colony as children has the serious drawback that the children may perceive the progressive mental deterioration of many of the older patients, and, realising the possibility of the same fate for themselves, may carry about with them a continual apprehensiveness that is one of the very worst possessions for an epileptic.

The school education of the epileptic child should be designed to avoid mental strain, and to facilitate concentration by means of movement and sensory impressions. Manual occupation is therefore indicated, and the best form of it is gardening. As an aid to mental development, ambidextrous work has yielded encouraging results. A foundation principle of treatment is inhibition through rhythm (regularity of hours, rhythmic drill, dancing, singing). Except in those rare cases in which surgical interference may cure, there is no specific treatment. The value of drugs is uncertain; and in some cases it may not always be desirable to control the fits.

Some of the good results of colony life are seen in the diminution in the number of fits. In the year after admission, 16 *per cent.* of the children have had no fits; in the following year 30 *per cent.*; in the third year 34 *per cent.*; and in the fourth year 36 *per cent.* Control of fits is most likely to be effected in those cases whose fits have begun in the first, second or third year of life. Mental development is less easy to report upon. Dr. Fox tabulates results of Binet-Simon tests, showing the average mental age to be about a year behind the physical, but points out that these tests are apt to be fallacious, as, even independently of fits, the mental condition of epileptics varies so much from time to time.

At present the colony is mainly used for children whose presence in ordinary schools is undesirable. The most favourable period for arresting these children's fits is already past. The colony should be primarily a place for treatment; cases with few fits or fits of recent onset should have precedence in admission. SYDNEY J. COLE.

4. Sociology.

Some Notes on Asexualisation, with a Report of Eighteen Cases. (Fourn. of Nerv. and Ment. Dis., March, 1920.) Barr, Martin W.

Asexualisation has been practised from early times. It is mentioned in the ancient histories of Rome and Greece, and has continued in various races down to the present day. Mental defectives are known to reproduce their kind rapidly, and they have so multiplied as to become a distinct race, and as such need protection for themselves, and the world from them, as they are a menace to society.

It is estimated that there are at least 350,000 mental defectives in the U.S.A.—over 40,000 of whom are cared for in institutions—and it is probable that 50 *per cent.* of the prostitutes are feeble-minded. Asexualisation contributes to a quieting of nervous and exaggerated emotional excitation, combats prostitution, and insures "race betterment" by diminishing the defective. Thirteen States in America have now legalised the asexualisation of imbeciles, criminals, and rapists. Castration and oöphorectomy are preferable to vasectomy and fellectomy. The writer quotes eighteen cases, showing in practically every case a definite improvement mentally and morally following operation. There was a modification of vicious traits, leading to more tractability, diminution of sexual desire and of uncontrollable temper, and the subject became a fairly useful unit of society. F. E. STOKES.

- (1) *Psychiatric Annexes and Special Therapeutic Sections for Abnormal Mental Cases in the Prisons. [Annexes psychiatriques et sections thérapeutiques spéciales pour anormaux mentaux dans les prisons.] Héger-Gilbert and Vervaeck.*
- (2) *Psychiatric Annexes in the Prisons. [Les Annexes psychiatriques dans les prisons.] (Bull. Soc. Méd. Ment. de Belg., February, 1920.) Duchateau and Masoin.*

In view of the prominent part played by Belgium in the past with regard to prison reform, these papers, read before the Belgian Society of Mental Medicine, are of considerable interest.

The first paper expresses the views of Drs. Héger-Gilbert and Vervaeck, who have long advocated the formation of "prison-asylums," but in consequence of the opposition which these proposals have hitherto met at the hands of the prison administrations, they suggest, as a first step, the institution of psychiatric annexes in the large prison centres: in other words, they propose the creation of a psychiatric infirmary in one wing of the prison.

The ever-increasing number of recidivists, together with the results of anthropological researches in the prisons, prove that the present method of treatment of criminals is imperfect, and that the time has

come to alter with discretion, but without scruple, the present code which has been in existence since the last century.

It is an error, not only from the social but also from the scientific point of view, to attempt to treat all delinquents in the same manner—normal as well as defective, neuropath and morally obtuse. In fact, it is this same error which explains, partly at any rate, the failure of the prison system of to-day.

It is surely not just that the mentally affected should be submitted to the same prison *régime* as the delinquents of normal intelligence nor is it reasonable to expect both these types to react in the same way to the mental treatment (persuasion, moral re-education, etc.).

Now, if the punishment, the prison *régime*, and the pedagogic and moral treatment should be individualised in order to be efficacious; if it is indispensable to adapt them to the type of mentality and of biological abnormality of the prisoners; it is surely necessary to reform the whole system of the repression of faults on new principles, and to bring them into harmony with the results of the researches of criminal anthropology.

Héger-Gilbert and Vervaeck then point out how they would solve, this delicate problem. Rather than be accused of being revolutionary they propose a gradual and progressive reform of the prison system, at the same time respecting, as far as possible, the framework of the old cell system.

They demand three things—

(1) The re-establishment of periodical mental inspections of prisons, which should be conducted by prison alienists.

(2) The creation of psychiatric annexes in the larger prisons, where the accused under mental supervision, and the condemned suspected of simulation, or of feeble-mindedness, might be observed under better conditions than is at present possible. Moreover, suitable accommodation should be provided for the treatment, under modern asylum conditions, of those prisoners suffering from curable mental affections—*e. g.*, those resulting from toxic invasion—whom the law necessitates keeping in prison.

(3) The organisation of special prison sections for the abnormal, where the latter might be under better observation and scientifically treated. For instance, those suffering from moral insanity, perverted instincts, kleptomania, or abnormal sexual impulses, would be much more suitably placed in one of these special sections than in asylums whence they are discharged, as a rule, much too soon. The authors maintain that it is not logical to send such cases to an asylum simply because they are declared irresponsible from the penal point of view.

The treatment recommended for these abnormal cases is mental and moral re-education, with the object of adapting them to social life, in so far as that is possible. They should also be classified, so as not to return to the community morbid individuals who would be a constant source of danger to it. Only the genuinely insane should be removed to asylums.

The doctor engaged in the prison service should be sufficiently remunerated to enable him to devote all his energies to the study of problems of criminology. He should have acquired a knowledge of

psychiatry and anthropology, which would enable him to discover the determining factors and the biological origins of the acts judged to be unlawful, and to apply that method of treatment best calculated to remedy the defects found, whether congenital or acquired.

Moreover, the psychological study of the delinquent will enable the doctor, with the aid of the administration, eventually to decide on the most suitable method of correction. With regard to this latter point the authors are convinced of the great importance of work—not the kind of work which has been in existence since 1839, and which consists of making paper bags; but such as would raise the *morale* and dignity of the worker. Two principles are maintained: (1) each man ought to earn his daily bread, and (2) each man ought to be paid for his work. The necessary equipment should be placed at the disposal of the worker, to enable him to produce a well-finished article, and, in the case of want of aptitude, he might be taught. The work done should be paid for at its market value, portions of the sums gained going respectively to the State, the victim and his dependants, and the prisoner's family; or, where this does not apply, the money saved would go to make up a small sum which would enable the delinquent to live on being discharged from prison whilst awaiting employment; lastly, a fourth part will enable the prisoner to buy extra rations at the prison canteen. Much is expected from the last-mentioned item as an incentive to work. It is understood that the delinquent capable of work should only receive from the State the strictest minimum of rations necessary for his subsistence, but he could considerably augment the quantity allotted to him by his work.

In this way the prison may one day become a technical school of moral and professional education. After all, to enclose within four walls a creature with anti-social tendencies is not conducive to making him more sociable. The hope is expressed that some day, not far distant, we may see the asylum-prison on the one hand, and the prison-school on the other, with the "indeterminate sentence" as a corollary. Without losing their restraining character, the prisons of the future ought to be, before everything, a means of prophylaxis and of criminal therapeutics. It is more useful to treat and to cure delinquents than to punish them; the incurables ought to be rendered harmless, but treated with humanity.

In the subsequent discussion Dr. Decroly emphasised the importance of prophylaxis in the case of criminality. Prevention has taken the first place in the fight against physical disturbances; why should it not be the same in the case of intellectual and emotional disturbances?

The second paper is a critical review of the suggestions expressed in the preceding paper. Duchateau and Masoin are far from contesting the utility of these annexes as observation quarters for those delinquents suspected of mental troubles, but they oppose the further uses to which Héger-Gilbert and Vervaeck would put them: thus they consider the establishment of a special service for the psychic treatment of abnormal cases would involve great difficulties of organisation. Duchateau and Masoin would prefer devoting an entire prison to these purposes, and suggest, as a preliminary experiment, that a section of the central prison at Ghent might be suitably transformed. It is pointed out that,

at the present time, this particular prison with its "common quarters" already serves as an *exutoire* for large numbers of abnormal and suspected cases. There is actually in existence at Ghent a state of things that could be perfected before undertaking the organisation of the other sections.

The authors consider that all these reforms should have as corollaries the "indeterminate sentence," with the principle of "social defence" inscribed in the code. This being regulated by the legislature, together with all measures of a practical order which that system involves, the rest would naturally follow.

NORMAN R. PHILLIPS.

Trade Unionism and Temperament: Notes on the Psychiatric Point of View in Industry. (Mental Hygiene, April, 1920.) Southard, E. E.

The final account of trade unionism will doubtless be given in terms of mass psychology; but of this so little is at present known that, in endeavouring to apply mental hygiene to industrial problems, psychiatrists may serve themselves best by the distinctions of the psychology of the individual. In our gropings in a subject so obscure, Dr. Southard, whose untimely death we who now read his last public utterance must the more lament, leads us to safe ground in the individual psychology of the old Greek physicians—men who had insight and hope (were "humourists," as we say), and, as the modern work on glands of internal secretion seems to show, had caught the right emphasis. He takes Hoxie's four main functional types of unionism and he finds that they correspond to the four classical temperaments. His point is not to say that trade unionists of one functional type are all temperamentally equipped in a certain way; rather that he can show by these means that in the study of such a problem the psychiatrist does not lack a method of his own.

(1) "Business unionism," accepting the wage system as it is, seeks the best obtainable terms of employment for its own membership. Its method is collective bargaining supplemented by mutual insurance and occasional resort to strikes. Its outlook is that of the craft or trade; its aims are somewhat narrowly economic. Southard associates this type with the phlegmatic temperament of relative indifference to pleasure or pain of ordinary degrees. From such persons we may expect business-like reactions, with not too much colour and not influenced by temperamental extremes.

(2) "Uplift unionism" accepts, along with the wage system, the whole existing social order. Its mission is to diffuse leisure-class culture and bourgeois virtues among the workers. Mutual insurance is its main function and homiletics its preoccupation. With this type the sanguine temperament is associated.

(3) "Revolutionary unionism" avowedly aims at the overthrow of the existing socio-economic order by and for the working class. There is a parallel in the mental attitude of the revolutionary and that of the confirmed melancholic. The latter, particularly of the more advanced years, is apt to centre his thought upon certain ideas which in frank cases of mental disease may amount to delusions. The revolutionary shows his resemblance to him in the grounding of all his life upon

definite ideas or hypotheses philosophically held, as well as in his unpleasant emotional tone of a felt passivity, illustrating for him the passivity in which he conceives the world around him to be, and providing the motive of the violence he advocates.

(4) "Predatory unionism" practises secret violence rather than open. It is lawless, and in so far anarchistic, but it professes no far-reaching philosophy, nor does it aim at anything beyond the immediate economic advantage of its own membership. It is easy to see in this type the choleric temperament. Here are men working, not on the comparatively high intellectual plane of the revolutionary unionist, but on lower instinctive levels. The revolutionary will have his reasons; the predatory will act on impulse.

The modern psychiatrist may be able to add to the classical doctrine or he may be able to overthrow the classical distinctions altogether, but it is upon some such analytic line that, in the solution of many a problem with which the world is confronted, he will be able to help. It will not turn out to be a matter of the head alone, with its scientific management, nor of the heart with its welfare programme, nor of the long arm of the law with its ideal of social justice. In such complicated fields as this of trade unionism, it is the individual categories of medicine—the art which of all arts has from the beginning taken the individual as its object—that will, as we hope, be of service to the world.

SYDNEY J. COLE.

The Classification of Industrial Applicants. (The Amer. Journ. of Ins., April, 1920.) Stearns, A. W.

During the past few years interest has been shown in the analysis of the personnel of industrial houses. A decided impetus has been given this work by the success of group tests as applied in the U.S. Army. This paper is a discussion of the industrial problem based upon two years' experience of psychiatric work in the U.S. Navy. The writer believes that some method of determining the mental health and capacity of industrial applicants should be adopted by every employer of labour. Two objects should be kept in view: (1) the detection of the unfit; (2) the classification of the fit. The interview is the only rational means of detecting the first group. The interviewer and applicant should be alone. Information is sought for under five headings and the interview can be completed, if necessary, in one minute. *Appearance*: The expression, attitude, manner, emotional tone, and, above all, the general type of the man should be observed. Anything unusual must be investigated, such as shabby clothing. This may be vagrancy or unavoidable. *Geographical factor*: All misfits tend to roam, so the place of birth and the various places of residences are of importance. *Formal education*: The examination for the higher standards usually weeds out the feeble-minded congenital cases and the very unstable. *Occupation*: The sort of work and the progress made is important. A man who has held a good job for some years is not apt to have nervous or mental disease. Defectives and the unstable tend to change jobs frequently, and to get into different sorts of unskilled work. *General health*: Many psychopaths

and psychoneurotics are chronic invalids, complaining of vague aches and pains, rheumatism, weakness, etc. None of the above points prove disability, but by this examination a small group of applicants, about 10 *per cent.*, is isolated for a more thorough study. Of these nearly half will be found unfit, and will be responsible for accidents, thefts, etc.

The classification of the fit.—This is studied under five headings: (1) *Physical condition.* (2) *Mental capacity.* The author uses the following tests: (a) Traube C; (b) dissected sentences from Binet-Simon scale; (c) cancellation test; (d) memory span for numerals; (e) Healy code; the total marks obtainable being 100. The applicants were divided into four groups: (1) Below 65, inferior; (2) 65 to 75, low average; (3) 75 to 85, high average; (4) 85 to 100, superior. Practically it was found that there was a tendency for the low men to fail and for the high to succeed, and no man was admitted to a naval school from group 1, this comprising 30 *per cent.* of the personnel. *Educational classification:* The applicants were put into four groups: (1) Less than 8th grade (New England schools); (2) 8th grade; (3) High School; (4) College. *Industrial classification:* Again four groups were made: (1) Misfits or failures, as vagrants, criminals, etc.; (2) unskilled, as students, or day labourers; (3) experienced, those not fully trained, but who show enough ability to make this worth while; (4) trained.

In addition to the above groupings, each occupation was given a serial number from 1 to 53. This made it possible to give every man a numerical formula representing his capacity and training. The number allotted to his occupation was put at the right of a decimal point. For instance, 111.34 would mean inferior intelligence, less than 8th grade education and industrial failure, his work being odd jobs.

C. W. FORSYTH.

5. Mental Hospital Reports, 1918-19.

Metropolitan Asylums Board.—The report for 1918 is very attenuated, and only a brief paragraph is devoted to each of the public services which come within the scope of the Board's many activities. Among these services not the least important is that which deals with the imbecile and feeble-minded.

The range of cases, the care of which is undertaken by the Board, comprises:

(a) Cases of imbecility and feeble-mindedness certified under the Lunacy Acts as suitable for workhouse care, which are divided into improvable and unimprovable.

(b) Uncertified feeble-minded.

(c) Cases admitted under the Mental Deficiency Act of 1913.

The Board's institutions consist of five asylums for imbeciles and two industrial colonies for imbeciles and feeble-minded.

The care and reception of cases under the Mental Deficiency Act, 1913, was undertaken subject to the authorities concerned agreeing to pay the full cost of maintenance, and to the Board of Control waiving such of their requirements as are not obligatory under the Act. As

regards these cases, the unimprovable adults are accommodated at Leavesden and Caterham and the unimprovable children at the Fountain Asylum. The trainable juveniles are sent to Darenth.

Statistics are given showing the movement of the asylums population during 1918. The total admissions under the Lunacy Acts were 894, and the average daily number resident 6,086. Judging by the number accommodated during previous years there must be nearly 2,000 vacancies.

As in the county and borough asylums, the death-rate has risen during the war, being 27.05 *per cent.* on the average number resident—more than double the average of the previous decade. Having regard to the fact that a large proportion of the patients are congenital and senile cases, the death-rate has not advanced as much as might have been expected, and is indicative of a state of affairs highly creditable to the Board and its staff. Tooting Bec Asylum must be one of the saddest institutions in the country, with its death-rate of practically 50 *per cent.* of the average daily numbers.

The number of uncertified feeble-minded patients under treatment was 777, of which 61 were admitted during the year.

Cases were dealt with under the provisions of the Mental Deficiency Act for the first time, and some 271 were admitted during the year, of whom 19 were discharged and 18 died.

The cost to the Board of its asylum service was £301,970.

St. Audry's Hospital (Suffolk District Asylum).—Dr. Whitwell draws attention to the fact that, at this hospital, no less than 46 out of the 97 patients discharged or transferred were dealt with under Section 99 of the Lunacy Act, 1890, and sent to the care of friends. During the past twenty years 675 patients have been discharged in like fashion, of which only 24.3 *per cent.* have been readmitted.

This possibly has some relationship with the recovery-rate of 12.43 *per cent.*, calculated on the total admissions during the year, which is low in comparison with 27.4 *per cent.*, the rate for the whole of the county and borough mental hospitals (the lowest ever recorded) for the same period. It is presumed that the cases discharged to the care of friends are included among those recorded in Table A2 as “relieved.” Since 1902, 3,734 patients have been admitted, of whom 655, or 17.5 *per cent.*, were discharged as “recovered” and 712, or 19 *per cent.*, as “relieved.”

Of course it is recognised that there is no such thing as a fixed standard of “recovery,” and the stage at which a patient may be said to have recovered is merely a matter of medical opinion. This no doubt accounts in a great measure for the different recovery-rates at various hospitals dealing with, on the whole, the same class of patients.

Quite apart from any views Dr. Whitwell may hold, a low “recovery” rate and a high “relieved” rate could be accounted for by a high standard of mental health for “recovery” being held, or a preference to discharge patients as “relieved” for further convalescence to be completed at home.

The latter procedure may have features which commend it apart from the relief afforded to the mental hospital accommodation and the

lessened cost to the public, though undoubtedly the recovery-rate would suffer thereby. It is possible that, under favourable circumstances, final convalescence is hurried on, and of a more durable character. Against it, is the risk of an early relapse and the trouble of re-commitment to care. The ideal would be either a prolonged period of "trial," or an arrangement whereby all cases should be discharged as "relieved," and not recorded as "recovered" until a satisfactory certificate of mental health is forthcoming twelve months later. Though this is hardly practicable, yet something should be done toward standardising the meaning of a recovery-rate, for no recovery-rate is of the slightest value unless it can be considered with the relapse-rate within some definite period of time.

The death-rate for 1918 (10.5 *per cent.*) was the lowest for the last eleven years. For 1915, 1916 and 1917 the death-rates were respectively 12.74, 11.69 and 16.62 *per cent.*

Dr. Whitwell remarks :

"It is probable that these variations in the death-rate are nothing more than the normal fluctuations which occur at all times in a population such as this; there is not sufficient evidence upon which to associate them with any changes in diet that have occurred during the war period, inasmuch as though the body-weight of practically everyone in the institution (staff and patients) fell a few pounds, largely owing to the diminution in fat-forming substances, it quickly became stabilised on the new diet, and, moreover, the sick diet never changed in any single particular during the whole period of the war."

Turning to the financial report a very healthy state is revealed. During the year the balance in hand on maintenance account of £1,572 13s. 1d. rose to £3,506 15s. 4d., of which £3,285 14s. was cash in hands of the Treasurer. The buildings and repairs fund account showed a balance in favour of £1,683 15s. 1d., and likewise the farm account of £2,734 os. 6d.

Part IV.—Notes and News.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.

SEVENTY-NINTH ANNUAL MEETING, HELD AT BUXTON.

THE SEVENTY-NINTH ANNUAL MEETING of the Association was held on Monday, Tuesday and Wednesday, July 26th to 28th, 1920, at the North Staffordshire Mental Hospital, Cheddleton, and at the Town Hall, Buxton, under the presidency, in the early proceedings, of Dr. Bedford Pierce, and later that of Dr. W. F. Menzies.

EVENING SESSION.—MONDAY, JULY 26TH.

Held at the Town Hall, Buxton, Dr. Bedford Pierce in the chair.

Members present: Dr. Bedford Pierce (President), Major R. Worth (Hon. Gen. Sec.), Sir R. Armstrong-Jones, Drs. T. Stewart Adair, C. Hubert Bond, D. Bower, A. Helen Boyle, W. Brown, J. Chambers, R. H. Cole, W. R. Dawson, A. W. Daniel, S. Edgerley, F. H. Edwards, J. W. Geddes, W. W. Horton, J. Keay, J. R. Lord, R. G. M. Ladell, J. Mills, A. Miller, W. F. Menzies, J. Middlemass, J. McClintock, Colin F. F. McDowall, S. R. Macphail, A. W. Neill, W. F. Nelis, M. J. Nolan, E. S. Pasmore, G. G. Parkin, C. S. Read, G. M. Robertson, M. L.

Rowan, B. H. Shaw, C. J. Shaw, T. W. Smith, J. B. Spence, W. H. B. Stoddart, E. W. D. Swift, F. R. P. Taylor, F. P. Thomas, W. R. Thomas, W. G. Thomson, E. W. White, W. D. Wilkins.

Visitors: Messrs. F. Dawson, E. Goodley, G. McClintock, Edward C. Myott, W. F. S. Nichols, T. N. W. Nolan, H. T. Pebworth, E. H. Taylor, T. A. Williams.

The following members wrote regretting their inability to be present: Sir James Crichton-Browne, Sir F. W. Mott, Dr. Sidney Coupland and Drs. H. de M. Alexander, G. A. Auden, G. N. Bartlett, J. S. Bolton, J. Brander, R. B. Campbell, M. A. Collins, F. M. Cowen, M. Craig, H. Devine, J. F. Dixon, R. Eager, J. R. Gilmore, R. D. Hotchkis, H. C. MacBryan, J. C. Mackenzie, G. D. McRae, D. Orr, A. R. Oswald, J. G. P. Phillips, F. E. Ramsford, J. N. Sergeant, G. E. Shuttleworth, J. H. Skeen, P. Smith, G. W. Smith, R. H. Steen, R. C. Stewart, J. G. Soutar, D. G. Thomson, H. Wolseley-Lewis.

Members present at the Council Meeting: Dr. Bedford Pierce (President), Major R. Worth (Hon. Gen. Sec.), Drs. T. Stewart Adair, D. Bower, A. Helen Boyle, J. Chambers, R. H. Cole, A. W. Daniel, W. R. Dawson, J. W. Geddes, J. Keay, J. R. Lord, W. F. Menzies, A. Miller, M. J. Nolan.

MINUTES.

The minutes of the last annual meeting were taken as read and approved.

ELECTION OF OFFICERS OF THE COUNCIL.

The PRESIDENT proposed: That the officers of the Association for the year 1920-1 be:

President.—Dr. W. F. Menzies.

President-elect.—Dr. C. Hubert Bond.

Ex-President.—Dr. Bedford Pierce.

Treasurer.—Dr. James Chambers.

Editors of Journal.—Drs. J. R. Lord, H. Devine, G. Douglas McRae and W. R. Dawson.

General Secretary.—Dr. R. Worth.

Registrar.—Dr. A. Miller.

This was agreed to.

He next proposed: "That the nominated members of Council be Drs. M. J. Nolan, R. D. Hotchkis, D. G. Thomson, G. W. Smith, Sir Frederick Mott, and Prof. G. Robertson.

This was likewise carried.

ELECTION AS HONORARY MEMBER OF DR. COLIN, OF PARIS.

The PRESIDENT said it gave him much pleasure to submit to members the proposal that Dr. Henri Colin, médecin en chef de l'asile de Villejuif, Secrétaire Général de la Société Médico-Psychologique de Paris, Editor, *Annales Médico-Psychologiques*, be elected an Honorary Member of the Association. Many would remember the last visit of their distinguished *confrère* to England and the very interesting paper which he read on that occasion. They would also have a lively recollection of his genial personality.

The motion was unanimously agreed to. It was supported by Drs. Menzies, Steen, Miller, Chambers, and Worth.

APPOINTMENT OF AUDITORS.

The meeting agreed to the proposal to appoint Dr. F. H. Edwards and Dr. C. F. F. MacDowall auditors for the current year.

COMMITTEES.

The members of the following Committees were severally re-appointed:

Parliamentary Committee.

Educational Committee, to which the names of Sir Frederick Mott and Lieut.-Col. W. R. Dawson were added.

Library Committee.

Research Committee.

Post-graduate Study Committee.

REPORT OF THE COUNCIL.

The SECRETARY (Major R. WORTH) read the Report of the Council for the year :
The number of members—ordinary, honorary, and corresponding—as shown in the list of names published in the *Journal of Mental Science* for January, 1920, was 626, as compared with 626 in 1919.

| | |
|---|----|
| Number of new members elected in 1919 | 21 |
| Number of members restored in 1919 | 0 |
| Removed according to Bye-law 17 | 0 |
| Number of members resigned in 1919 | 12 |
| Number of deaths in 1919 | 9 |
| Transferred to Hon. Members | 0 |

The following table shows the membership for the past decade :

| Members. | 1910. | 1911. | 1912. | 1913. | 1914. | 1915. | 1916. | 1917. | 1918. | 1919. |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Ordinary | 680 | 690 | 696 | 695 | 679 | 644 | 632 | 627 | 626 | 626 |
| Honorary | 33 | 34 | 35 | 34 | 34 | 34 | 32 | 33 | 32 | 26 |
| Corresponding | 17 | 19 | 19 | 18 | 18 | 18 | 18 | 18 | 18 | 9 |
| Total | 730 | 743 | 750 | 747 | 731 | 696 | 682 | 678 | 676 | 661 |

We have to report that Lieut.-Col. Keay has been appointed Chairman of the Education Committee, and Dr. Collins Vice-chairman, Dr. Maurice Craig having asked to be relieved of his duties after having served for many years.

Lieut.-Col. W. R. Dawson was elected to fill the vacancy caused by the lamented death of Dr. T. Drapes, and Dr. H. Devine and Dr. G. Douglas McRae were also elected to complete the Editorial Staff of the Journal.

Dr. Bedford Pierce was elected to serve on the Council of the Nurses Registration Bill, and it was proposed that the Medico-Psychological Association should join the British Federation of Medical and Allied Societies, and that Dr. R. H. Cole should be the representative. That an entrance fee of £2 2s. and annual subscription of £7 7s. be paid.

A deputation of the Medico-Psychological Association was appointed to interview the Minister of Health, at which many points affecting the Association were discussed with satisfaction.

Following a meeting at the Guildhall regarding the training of nurses and probationers, Drs. D. G. Thomson and A. Miller were named representatives of the Association to confer with the representatives of the National Council of Institutions for the Treatment and Care of the Mentally Afflicted in connection with the formulating of a scheme for the future certification of permanent members of the nursing staff in mental hospitals on similar lines to those on which certificates of training are granted in general hospitals.

The Education Committee have decided, at the suggestion of the Council, that there should be a new edition of the hand-book and that the whole syllabus for the examination of nurses should be revised.

Drs. Thomson and Worth were appointed to confer with the N.A.W.U. with regard to the revision of the Asylums Officers' Superannuation Act. The Association has communicated with the different authorities to see whether the pensions of retired mental hospital servants could be increased.

It has been agreed that the Association should administer the Convalescent Fund of the Asylum Workers' Association.

Sir James Crichton-Browne delivered the first Maudsley Lecture at the Royal Society of Medicine on May 20th.

At the May meeting it was agreed that Dr. C. Hubert Bond should be nominated President-Elect.

A special Sub-Committee has been formed to go into the matter of post-graduate study.

We greatly regret having to announce the deaths of Drs. T. Drapes, C. A. Mercier, E. G. Fearnside, and E. S. H. Gill during the past year.

The report was received and approved.

TREASURER'S REPORT.

The Treasurer (Dr. CHAMBERS) submitted the revenue account and balance sheet for 1919. He pointed out that there had been a considerable diminution in the cost of the production of the Journal, and thanks were due to the Editors for having carefully regulated their requirements in accordance with the increased cost of labour and materials, and the falling revenue. Owing to the Editors' wise economy, and to the amount of arrears which had been paid, the balance at the bank justified an increase in the size of the Journal for the current year; the result will be a serious increase in the printer's bill at the end of the year. It was very important that the Journal should be restored to its former standard of excellence, and, as members were aware, it was for this reason proposed to increase the annual subscription.

Nearly all the subscriptions written off were accounted for by the Association having excused members for the period of their foreign service. As the result of further inquiries and correspondence, a considerable amount will have to be written off at the end of the current year.

The Association and the General Secretary were to be congratulated on the large number of new members recently elected.

The report was received and adopted.

REPORT OF THE EDITORS—1919.

During the war the Editorship of the Journal was largely in the hands of the late Dr. Thomas Drapes, who was ably supported by Dr. Henry Devine and Dr. G. Douglas McRae as Assistant Editors. The other Co-Editor, Lt.-Col. J. R. Lord, was only referred to on matters of great moment or difficulty. The death of Dr. Drapes on October 5th, 1919, was a great loss to the Association, and especially to the Journal. Fortunately, Lieut.-Col. J. R. Lord was able to resume active work as Co-Editor, and there was not the slightest hitch in the production of the Journal, owing to the business-like methods adopted by Dr. Drapes, and the admirable order in which he left it.

It thus became necessary to supplement the Editorial staff, and at the Quarterly Meeting of the Association held on November 25th, 1919, it was decided to revert to the custom of having four Co-Editors. Lieut.-Col. W. R. Dawson, O.B.E., as representing the sister Isle, was asked to join, and subject to their consent it was decided that the two Assistant Editors, Drs. Devine and McRae, should be raised to the status of Co-Editors. All this in due course materialised and the names of the four Co-Editors appeared on the cover of the January number of the Journal, 1920.

During 1919 the Journal began to recover from the embarrassments imposed by war conditions, and its size remained curtailed for financial reasons only. In the April number, 1919 (p. 65), was a notable contribution by the late Dr. Henry Maudsley on "War Psychology: English and German," one of his last productions—the importance of which will, no doubt, be more and more appreciated when the future history of Europe comes to be written.

The Journal took a new lease of life in January, 1920, and the Co-Editors are grateful for the very satisfactory support accorded them by the members of the Association. More assistance, however, would be thankfully received as regards Reviews and the Epitome. With an improvement in the financial position of the Association it will be possible to expand the Journal to its former size, and to enhance its importance and interest by the publication of more illustrations, which have to be restricted in number at present.

For the Co-Editors.

JOHN R. LORD.

Lt.-Col. Lord moved the adoption of the report.

The PRESIDENT congratulated Col. Lord on the excellent standard maintained by the Journal, and the great pains he had taken to bring it back to its pre-war standard.

Lieut.-Col. LORD, in acknowledging the President's remarks, made sympathetic

THE MEDICO-PSYCHOLOGICAL ASSOCIATION.—For the Year 1919.

REVENUE ACCOUNT—January 1st to December 31st, 1919.

| 1918. | Dr. | £ s. d. | £ s. d. | £ s. d. | Cr. | 1918. |
|-----------|--|-----------|---------|---------|---------|------------------|
| 652 15 5 | To Journal—Printing, Publishing, Engraving, Advertising, and Postage | 542 19 1 | | | 117 2 5 | £ s. d. 103 18 8 |
| 300 3 6 | " Examinations, Association Prizes, and Clerical Assistance to Registrar | 351 13 4 | | | 175 0 0 | |
| 20 1 8 | " Petty Disbursements, Stationery, Postages, etc. | 22 5 2 | | | 60 15 8 | |
| 81 17 9 | " Annual, General, and Divisional Meetings | 133 14 11 | | | 6 3 8 | |
| 103 12 0 | " Rent of Premises at 11, Chandos Street, care of Office, etc. | 100 18 0 | | | 13 0 2 | |
| 8 8 0 | " Audit and Clerical Assistance | 8 8 0 | | | | |
| 46 16 5 | " Miscellaneous Account | 110 17 9 | | | | |
| 1213 14 9 | Balance | 1279 16 3 | | | | |
| 155 9 2 | | 260 5 2 | | | | |
| 1369 3 11 | | £1540 1 5 | | | | |

| Income. | £ s. d. | £ s. d. | Cr. | 1918. |
|--|---------|---------|----------|------------------|
| By Dividends—General | ... | ... | 117 2 5 | £ s. d. 103 18 8 |
| " Sale of Journal | ... | ... | 175 0 0 | |
| " Handbook | ... | ... | 60 15 8 | |
| " Statistical Forms, etc. | ... | ... | 6 3 8 | |
| " Advertisements, etc. | ... | ... | 13 0 2 | |
| " Fees, Certificates of Psychological Medicine | ... | ... | 254 19 6 | 196 9 1 |
| " Certificates of Proficiency in Nursing | ... | ... | 497 0 6 | 411 12 2 |
| " Subscriptions | ... | ... | 670 19 0 | 655 4 0 |

BALANCE-SHEET—31st December, 1919.

| 1918. | £ s. d. | £ s. d. | £ s. d. | 1918. |
|----------|---|------------|---------|-----------------|
| 140 10 2 | To Journal Account, balance of | 160 19 8 | | £ s. d. 721 5 2 |
| 83 8 0 | " Examinations Account, balance of | 87 12 6 | | 142 4 5 |
| 14 0 6 | " Petty Disbursements Account, balance of | 2 0 7 | | 57 6 7 |
| 25 18 0 | " Meetings Account, balance of | 20 1 0 | | 17 9 1 |
| 25 18 0 | " Rent Account | 20 1 0 | | 148 7 2 |
| 19 6 5 | " Miscellaneous, balance of | 24 1 10 | | 370 12 1 |
| 16 11 4 | " Library Account, Dividends | 14 8 6 | | 503 19 4 |
| 166 7 8 | " Gaskell | 105 11 0 | | 24 5 6 |
| 24 5 6 | " Maudsley | 3 15 0 | | |
| — | " Dividends | 122 11 8 | | |
| — | " Dividends | 7 6 6 | | |
| 516 5 7 | Balance at 1st January | 24 18 6 | | |
| | Add: Balance of Revenue Account | 3791 8 0 | | |
| | " Investments, appreciation of | 260 5 2 | | |
| | Deduct: | 4051 13 2 | | |
| | Subscriptions written off | 93 9 0 | | |
| | Library Dividend transferred | — | | |
| | Investments, depreciation of | 240 2 7 | | |
| | | 333 11 7 | | |
| | | 3718 1 7 | | |
| | | £4307 13 7 | | |

| Assets. | £ s. d. | £ s. d. | 1918. |
|--|---------|----------|-----------------|
| By Lloyd's Bank—Bankers | ... | ... | £ s. d. 721 5 2 |
| " Sales Account, balance of | ... | ... | 142 4 5 |
| " Fees Account, balance of | ... | ... | 57 6 7 |
| " Subscriptions Account, balance of | ... | ... | 17 9 1 |
| " Maudsley Bequest, balance of | ... | ... | 148 7 2 |
| " Stocks, value at this date: | ... | ... | 370 12 1 |
| " New Zealand, 3½ per cent., 1940 | ... | ... | 503 19 4 |
| " Do. | ... | ... | 24 5 6 |
| " Victoria, 3½ per cent., 1923 | ... | ... | |
| " Do., 3 per cent., 1929-49 | ... | ... | |
| " Manchester Corporation, 3 per cent. | ... | ... | |
| " New South Wales, 3½ per cent., 1930-50 | ... | ... | |
| " Midland Railway Preference, 2½ per cent. | ... | ... | |
| " War Loan, 5 per cent., 1929-47 | ... | ... | |
| | ... | 3231 5 6 | 3471 8 1 |

FRANCIS H. EDWARDS, } AUDITORS.
G. F. BARHAM }

(Signed) JAMES CHAMBERS, TREASURER.
(Signed) BOLT, GOODFELLOW & Co., F.S.A.A.

reference to the late Dr. Drapes and his work as Editor. He said he found, after having been out of touch with Journal matters during the war, that everything connected with it was in such excellent order that there was no difficulty in resuming office.

The report was duly adopted.

REPORT OF THE SUB-COMMITTEE ON POST-GRADUATE STUDY.

Lieut.-Col. J. R. LORD communicated a verbal report on the work of this Sub-Committee. He said that, following the direction of the Association, he convened a meeting of this Sub-Committee on June 30th, 1920, at No. 11, Chandos Street, London. There was a good attendance of members, and Dr. Hubert Bond was elected Chairman, and himself (Col. Lord) Secretary. Acting on the powers given to the Sub-Committee in the reference, they added thereto Prof. G. Robertson (Scotland), Dr. J. O'Connor Donelan (Ireland), Dr. H. Devine, Dr. J. Middlemass, and Dr. E. Goodall (Wales). The second meeting had been held that day (July 26th), when the matter was further discussed. It was found to be a very intricate one, but some further progress was made. The next meeting would probably, he said, be called in September.

REPORT OF THE PARLIAMENTARY COMMITTEE.

Dr. R. H. COLE read this report :

The Committee has met four times as in previous years. The Committee has continued to urge the claims of mental nurses and is able to report that it has secured for them fair representation in the Nurses Registration Act, also that Dr. Bedford Pierce has been appointed on the first Council established by that Act, and further that the Minister of Health has been approached with the view to the formation of a supplementary register for nurses trained in institutions for mental defectives. Suggested amendments to the Asylums Officers' Superannuation Act, 1909, have been considered and a conference has been held between representatives of this Association and the Clerks' and Stewards' Association and the National Asylum Workers' Union with the object of preparing an amending Bill. Efforts have been made to promote legislation to improve facilities for the early treatment of mental disease on the lines laid down by the recent Report of the Association, and a deputation was received very sympathetically by the Minister of Health on this subject. The same matter is being pressed forward by the newly formed British Federation of Medical and Allied Societies which the Association has joined.

H. WOLSELEY LEWIS, *Chairman*,
R. H. COLE, *Secretary*.

It was duly agreed to.

REPORT OF THE AUDITORS.

Dr. F. H. EDWARDS submitted this report :

We have examined the vouchers and books of the Association and beg to report that the balance sheet and revenue account present accurately the financial position of the Association.

F. H. EDWARDS } *Auditors*.
G. F. BARHAM }

The report was agreed to.

MORNING SESSION.—TUESDAY, JULY 27TH.

Held at Cheddleton Mental Hospital, Dr. Bedford Pierce in the chair.

REPORT OF THE EDUCATIONAL COMMITTEE.

Dr. A. W. DANIEL moved the adoption of the following report :

This Committee has held eight meetings, and in addition much work has been done by Sub-Committees.

One candidate presented himself for the Professional Certificate Examination, and he was successful.

There was no candidate for the Gaskell Prize and Medal.

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The number of candidates for the Nursing Certificate is showing a great increase now that the training of mental nurses is compulsory. The numbers last May were for the Preliminary 2036, of whom 1308 were successful; for the Final 612, of whom 371 were successful.

A Sub-Committee has been formed to arrange for the rewriting of the Handbook for Attendants on the Insane, and their work is in progress.

Much time has been spent on the revision of the syllabus of training, the regulations, the schedules, and the rules for the conduct of the examinations. Our suggestions have been approved by the Council and are now presented for confirmation. It may be stated that the more important alterations are:

- (1) That the three years of training must be spent in one institution or service, as decided at the last annual meeting.
- (2) That instead of two examinations there shall be three, one at the end of each of the three years of training.
- (3) The minimum number of lectures and demonstrations has been materially increased.
- (4) The regulations are to apply to all nurses joining the service after November, 1920.

Regulation No. 5 reads as follows:

- (5) Nurses who possess certificates of having trained for three years in a general hospital, or poor-law infirmary, approved by the Council, shall be exempt from the First and Second Examinations and shall be eligible for the Third Examination for the Medico-Psychological Certificate after training for a further period of one year in one recognised institution.
- (6) The fees payable by candidates have been increased.
- (7) It has been decided that examiners and coadjutors shall be paid.

The proofs of the regulations and syllabus will be obtainable from the General Secretary.

Lieut.-Col. J. KEAY seconded.

Prof. GEORGE ROBERTSON (Edinburgh) said there was one item in the Report to which he would like to direct attention. He referred to that part in which it was stated that a nurse who had received training at a general hospital might receive the nursing certificate of the Medico-Psychological Association after only one year's further training in a mental hospital. That constituted a departure from past observance, when two years' further training in a mental hospital was the time insisted on. On that point he did not think anyone would accuse of him of not taking an interest in hospital nurses. He had often spoken on their behalf; probably, in the opinion of many, much too often, for he had done it in season and out of season. Hence he could claim to have shown himself to be thoroughly interested in their welfare. But he regarded the present intended alteration in the Association's regulations in this respect as a very serious departure, and one which ought not to be accepted by members. He therefore wished to move that the Report be referred back to the Committee for re-consideration and further report. The first hospital nurse introduced by him, who worked in the general wards of an asylum, was at Murthly Asylum, in Perthshire, in 1896. Nurses had previously been trained in asylums by Dr. Campbell Clarke, and he recently met one of the first of these nurses, who presented to him the certificate which she had obtained from Dr. Campbell Clarke—the first obtained by a mental nurse. After that the Scottish Division of the Association took up the training, and, at a later date still, the Association as a whole took it up. In furtherance of the idea of employing hospital-trained nurses in mental work he proposed in this Association twenty years ago that, seeing that the training of hospital and of mental nurses overlapped considerably with regard to such subjects as physiology, anatomy, and general nursing in emergency, hospital nurses might be relieved of one year of training, and be granted a certificate after two years', instead of three years', training. At that date so little did the Association approve of a reduction in the length of the training that not one member was found to support his motion, and he was unable to find a seconder. Not until ten years later was the reduction made from three years to two for hospital-trained nurses; and on that occasion it was proposed by Dr. Mercier, and was carried without dissent. He, the speaker, approved of the time of the training being reduced, but he was strongly against the proposed

further curtailment to one year, and that for a variety of reasons. He had probably trained more hospital nurses in mental work than had anybody else. He did not think the average hospital nurse understood in one year mental cases nor acquired the proper attitude concerning them. These hospital nurses came to asylums looking at disease from a physical, not from a mental standpoint. To show how different was the attitude of the hospital nurse from that of the mental nurse, when the latter sat down by the bedside of a patient to understand the patient, the hospital-trained sister would ask her if she had nothing to do. In asylums it was well understood that one of the main duties of a nurse was to sit down by the side of patients, talk to them, and try to elucidate and understand their personality. The general hospital nurse received a training in technique and in method, whereas the mental nurse required to be trained in resourcefulness and observation. The training in the two cases was of a different kind. Therefore not only did hospital nurses require to overcome some handicap when they came to an asylum, but even general practitioners, of whom he had had some experience during the war, when they came into an asylum did not seem to get into touch with the patients, or ever to understand mental cases. Dr. Yellowlees, the present "Father" of the Association, Dr. Clouston, and Dr. Rutherford all stated it was preposterous to think hospital nurses could ever look after mental patients. That was wrong, but he was sure they would be opposed to reducing the period of training of hospital nurses in asylums by another year.

The other objection he felt to the change was, that he thought they would be degrading the value of the mental certificate by saying that for such nurses one year of asylum training was sufficient to learn all that was required in order to be able to look after mental cases. (Hear, hear.) A great deal of trouble had been experienced in getting the public to appreciate the good work which mental nurses did, and how they kept up to the demands which were made upon them. There had always been a tendency for hospital nurses to look down upon mental nurses, for that department of the profession had been regarded as the Cinderella of nursing. It had, however, a fairy godmother in the Association, and through it mental nursing had attained to a status and position which had become higher and higher, and had it not been for the regrettable threats of strikes, the outcome of general industrial unrest, during the last year or two, they might have now been almost on a level, in the estimation of the public, with hospital nurses. But if now the Association were to step in and state that hospital nurses who had scarcely been in contact with mental patients could learn all that they required to learn in one year, it meant a depreciation of the value of the training in this special branch of nursing.

The other point in connection with this matter was, that the General Council of Nursing would have to consider all the statutory regulations regarding training. If this Association were now to pass the suggested alteration to the effect that one year's mental training for the hospital nurse was sufficient, it was possible that the General Nursing Council might order that the hospital nurse should have two years of training in a special hospital before she could be regarded as being an efficient mental nurse. Therefore they were, to some extent, in the hands of the Nursing Council. Of course the latter would take advice from this Association, but he thought it would be disadvantageous for this meeting to depreciate the value of asylum training. It was hoped that reciprocity would be achieved between the different branches of nursing. For many years past hospital nurses had been relieved of one year of training because of this overlapping, but a similar favour had not yet been granted for mental nurses passing to general hospitals, though he understood that was being contemplated. When the College of Nursing was being established, he put that point to Sir Arthur Stanley, and that gentleman agreed that arrangements should be made to grant a similar concession to mental nurses to that which had been conceded to hospital nurses. But if this Association was going to pass a regulation of the kind set forth in this Report, degrading the value of the period of mental training, it was not at all likely they would be able to get concessions on equal terms.

For those reasons he sincerely trusted—and that because he was interested in hospital nurses in asylums—that this proposed alteration would not be approved, but that the Educational Committee would reconsider this serious departure.

The PRESIDENT said, as a matter of procedure he understood Prof. Robertson's

proposal to be that this Report be referred back. He was not sure, however, that that would not be rather unfortunate. It would place the Educational Committee in rather a difficult position in regard to their new regulations. He understood Prof. Robertson's criticism was directed to only one item in the Report. On looking at the Association's rules, it appeared that the Educational Committee was entrusted with the regulation of the examinations for the Certificates of the Association, and such other matters touching the teaching of psychiatry and the nursing of the insane as are designated to it by the Association or by the Council. It did not say it was entrusted with the carrying out of the regulations. Still, however that might be, if the annual meeting did not approve of the Report of the Educational Committee, it would be difficult for that Committee to go on. He was wondering whether Prof. Robertson would be satisfied to agree with the adoption of the Report, with an express amendment on the point he had criticised.

Prof. ROBERTSON said he preferred to take that course; that the Report as a whole be adopted, with the amendment that instead of the word "one," the word "two" be inserted. He did not put his remarks in the form of a motion, as he did not think that would be in order.

Dr. S. R. MCPHAIL seconded the motion with pleasure. Prof. Robertson's speech was the most interesting one he had ever heard that gentleman make. He would simply be a Saul among the Prophets and second it.

The PRESIDENT said the matter was now before the meeting. They must take this one question now only, afterwards going back to the remainder of the Report. This particular amendment referred to whether nurses who were trained in general hospitals or poor-law infirmaries should be exempted from the first and second examinations.

Lieut.-Col. E. W. WHITE said he wished strongly to support Prof. Robertson on this matter. It was quite true to say that the training of nurses originated in Scotland. It was in the '80's—about 1887—that it was introduced into England, namely, in the City of London Asylum. Dr. Greenlees, a Scotsman who was the speaker's active coadjutor in the matter, and he both favoured the project. They trained a large number of nurses, and for the first three or four years they issued their own nursing certificate from the City of London Asylum. When the Association started issuing certificates, the City of London Asylum cancelled theirs in favour of the Association's. Many nurses passed through that asylum, and then went into general nursing, for which they had to do three years' training. One or two general hospital nurses came to the asylum and obtained the nursing certificate of the Association. He considered it absolutely essential, for the maintenance of the real value of the Association's nursing certificate, that the two years in an asylum should be exacted, as proposed by Prof. Robertson, in place of one year as set out in the Report. The latter would mean a depreciation, a lowering of the standard of the certificate, which required to be kept up to the highest point. He regarded the matter as one of very great importance, and asked his hearers, in coming to a decision, to consider the future, and insist on the certificate being valued as it should be.

Dr. W. F. MENZIES said this Report came from the Educational Committee on the recommendation of a special Sub-Committee. He was not himself a member of that Sub-Committee, and therefore he was able to speak independently. They mentioned that the foundation of their request for an alteration from two years to one year was, that for two years the training was in ordinary nursing subjects, and during the third year there was specialisation in mental subjects. That, of course, constituted a strong argument. The other reason was, in his mind, that to object to one year was not the way to go about it. He could cite six cases he had had in the last year who were willing to come for one year, but were not willing to come for two years. Members of the Association must not confine themselves to their own training, but must consider also midwifery and other accessory departments. For many years he had heard, at intervals, that Prof. Robertson and his coadjutors were the earliest to introduce hospital nursing in asylums; he now expressed the hope, once for all, that Prof. Robertson would not repeat that statement. If that gentleman could only cite 1896, he, the speaker, could tell him that more than four years earlier Dr. Wigglesworth had hospital-trained nurses in the wards of Rainhill; when he, Dr. Menzies, was there in 1891 they were there. Hence it was not Scotland which began this thing, it was

England. His experience of those nurses, from 1890 onwards, was that only the enthusiast came to the asylum, that the nurse qualified by hospital training who wanted to learn the nursing of mental cases was a girl who was interested in her profession, and took good care that in a year she would become efficient in mental nursing, and would understand all the principles of it. The ordinary hospital nurse was so bad that everyone was quite willing to part with her in six months. The good nurse who was interested in her work could be easily trained in one year if she had secured a good hospital certificate beforehand.

Dr. E. S. PASMORE desired to support Prof. Robertson's amendment in favour of two years of mental training for hospital nurses as a condition of securing the Association's nursing certificate. He thought Prof. Robertson struck the key-note when he said the reduction of the two years of mental training to one year would depreciate the value of asylum training. Prof. Robertson's description of the attitude of the hospital nurse in the asylum was true—she did not appreciate the importance of mental disease. All her training for two or three years had been concentrated in the wards, and if one spoke of patients committing suicide, these nurses, in the first few months, showed a tendency to laugh at the idea. He remembered having on the staff of his asylum a lady who had been assistant-matron at a general hospital. She was like a baby in the asylum, and for the first nine months did not seem able to do anything helpful. She appeared to be continually under the impression that anything in an asylum was derogatory, and not up to the standard of hospital nursing. He believed that if the training of hospital nurses in mental work were reduced to one year, the status of mental nurses would be depreciated. They would be even more looked down upon by hospital-trained nurses, and he did not think any larger number of nurses would be attracted to asylum work thereby.

Dr. R. H. COLE said the subject now being discussed was a very important one. Medical officers engaged in dealing with mental disease had been apart from physical disease practitioners so long that they should now try to come together. This was an opportunity to do so by means of the nurses. Everybody would acknowledge that the nurse in the general hospitals would not come to the asylums as the regulations existed at present. They were willing to enter asylum service as "superior persons," *vis.*, as assistant-matrons, but not as nurses, thereby, as Prof. Robertson had said, depreciating the true value of mental nursing. Hospital nurses were being taught about mental disorders, and that people undergoing treatment in hospitals were not to be regarded as persons suffering from physical diseases only, but also as personalities. Lectures were now being given to nurses at general hospitals on mental disorders. He considered that mental nursing was a branch of general nursing and to some extent subsidiary, as also were midwifery and other branches. He thought there ought to be reciprocity; that a woman should be required to train in a mental hospital for only one year if she were a hospital nurse, and that mental nurses should only be required to train in a general hospital two years to be physical nurses. He felt very strongly about this. He was on the Sub-Committee, the members of which thought it desirable to make this change. He was, therefore, against the amendment.

The PRESIDENT said it would be well to have a considerable expression of opinion, if only briefly, from each member, before it was put to the vote, as the matter was an important one.

Dr. M. J. NOLAN said he had had hospital nurses in his hospital since 1894, and therefore he knew something about it. He wished to say a word in favour of one year's training in a mental hospital. He considered that a hospital nurse, who had been well trained in a general hospital and certificated, if she were worth anything, would be able to pick up what was required to make her efficient in mental nursing in one year. He looked upon it as a similar case to that of the man who had a licence in surgery and medicine yet took a midwifery diploma in addition. One would not expect a man to possess a diploma in midwifery before he was qualified in medicine and surgery. Similarly, he thought a hospital nurse who had put in three years of general training should be able, after one year's training in an asylum, to learn ample for the purpose. And this would have the effect of bringing into asylum service a large number of nurses who were anxious to come in order to gain knowledge of mental nursing, but who might not come if the period required were to be made more than one year.

Dr. J. MILLS desired to utter a brief word in favour of the one-year period. He did so because the admitting to the asylum service of nurses who already possessed a knowledge of physiology, anatomy and general nursing would be an advantage generally in the treatment of the patients. He favoured the one-year regulation with the view of improving the general standard of the staffs of asylums, on the principle that "a little leaven leaveneth the whole."

Dr. C. J. SHAW said that for the very reasons given by the last speaker he wished to support Prof. Robertson's amendment. The aim should be to raise the status of the mental nursing profession, and he did not think this would be done by lowering the value of the nursing certificate issued by the Association. Mental nursing was very different from ordinary physical nursing. The very best nurses were needed in asylums, and medical officers wished to do their duty by them and make the certificate granted to them one of real value, a value as near as possible to that of the ordinary certificate for physical nursing. At present there was no such reciprocity existing. If a mental nurse entered a general hospital she had to go through the whole general training, and if general nurses were allowed into asylums for one year and then granted a certificate, he did not think those responsible would be doing their duty by the mental nurse. He had had considerable experience of trained nurses in asylums, and, as far as he had seen, they were not anxious to stay there two years and take the certificate. The regulation as it at present stood was calculated to maintain the high value of the certificate; and asylums should have good mental nurses and the very best of the hospital-trained nurses. If members were going to make the mental nursing certificate too easily obtained, then it would incline ordinary nurses to view the certificate granted by this Association with even more contempt than at present. Many of them came to be assistant-matrons, and he thought the best of the asylum nurses who obtained the Association's certificate went into general hospitals with that view, and the best of nurses from general hospitals entered asylums with the same object. He did not think it was advisable to reduce the value of the Association's certificate by making the period of training in a mental hospital only one year instead of two.

Dr. COLIN McDOWALL said all the speakers, so far, had been superintendents of large institutions, where large numbers of patients had to be treated. He thought that the views of the men who ran the smaller institutions should also be known by the Association. In such a place as his own, where there were only eighty patients, forty of them female, and perhaps 70 *per cent.* of them suffering from chronic mental disorders, it would be seen to be impossible to think of training women efficiently in mental nursing in the course of one year. Indeed it could not fully be done in two years; he doubted if it were possible in three years. He therefore felt that the amendment now before the meeting should be supported, making the training, at the very least, two years for general nursing in asylums.

Lieut.-Col. J. KEAY said that though he moved the adoption of the Report of the Educational Committee he hoped it would not be out of order for him to support Prof. Robertson. He thought the Association would be making a mistake in doing anything to lessen the standard of its certificate in mental nursing. He thought a reduction of the time required in a mental hospital for a trained hospital nurse would have that tendency. During the last five and a-half years he had had considerable experience of trained nurses. He had at the present time, in the hospital of which he had charge, a large number of trained nurses and sisters, as well as some mental nurses. He had formed the opinion, after carefully thinking out the subject, that a good mental nurse was better than any hospital nurse. He believed that the best nurses in his hospital, whether for mental or any other cases, were mental nurses. He considered that the mental nurse who had had the Association's training should be able to go into a general hospital and obtain the certificate for general nursing as easily as the trained hospital nurse could enter an asylum and obtain this Association's certificate. He placed them, in his mind, on an absolute equality. If that were done generally he thought they would be on the right lines. He would not do anything to assist general hospital nurses obtaining the Association's certificate at a cheaper rate, or give facilities which the mental nurse did not enjoy when she sought the general nursing certificate.

The PRESIDENT said he would now put the amendment to the meeting, and he hoped that in arriving at a decision one aspect of the subject would be ignored,

namely, the immediate welfare of the institutions. He did not think that was germane to the subject. Because it might be convenient to get hospital nurses into asylums on easy terms, he hoped that would not be allowed to influence members' decisions. He thought all members saw that the real thing was the dignity of the mental nurse, and what was going to be best for mental nurses; not what was best for institutions. It would be seen that those two were not the same thing. Members were acting as the trustees of mental nursing.

Twenty voted in favour of the amendment, ten against.

The PRESIDENT said that, the amendment having been carried, the proper course was to put to the meeting for adoption the Report of the Educational Committee as amended.

Prof. G. ROBERTSON said it gave him great pleasure to move the adoption of the Report of the Educational Committee as amended, and to include in it a resolution of thanks to the Committee for their labours in the matter.

Dr. E. S. PASMORE seconded.

The PRESIDENT said this proposition having been duly moved and seconded, it gave members an opportunity of raising any other matter in the Report if they desired to do so.

The amended Report was agreed to.

SUGGESTED INCREASE OF SUBSCRIPTION.

Dr. J. CHAMBERS proposed that the annual subscription be, in future, one-and-a-half guineas. He explained that the increase in the expenditure was due mainly to the cost of producing the Journal. Hitherto, since the commencement of the war, the Association had been able to carry on owing to the Editors having reduced the size of the Journal. But that procedure had its limitations, and it would prove detrimental to the interests of the Association if its Journal could not now be restored to something like its former standard of excellence. He felt it was a real necessity that the subscription should be increased in order that the work of the Association should be carried on properly.

Dr. J. MILLS seconded, and the resolution was carried.

TRAVELLING EXPENSES OF THE HANDBOOK COMMITTEE.

Dr. J. CHAMBERS, at the request of the President, proposed that the travelling expenses of the members of the Handbook Committee be paid. He said that this matter had received a great deal of consideration, and he hoped that the Association would adopt this course.

Lieut.-Col. E. W. WHITE asked whether a profit would be made out of the sale of the handbook.

The PRESIDENT replied in the affirmative.

Dr. J. CHAMBERS said the sales of the handbook had increased very much, and last year the receipts therefrom were £60 15s. 8d.

Lieut.-Col. E. W. WHITE said he had much pleasure in seconding the proposition.

The PRESIDENT said he was a member of the Handbook Committee, and he did not propose that the expenses other than travelling expenses of the Committee should be paid. The Committee did not hold a large number of meetings, but when they had occurred, members had travelled to them from Ireland and the North of Scotland, as well as from London, Manchester, Liverpool, etc., and, nowadays, travelling was a very expensive matter. And, seeing that this book formed a source of income for the Association, it was regarded as not unreasonable that the actual travelling expenses should be defrayed by the Association. That was the reason the matter had been brought forward.

Dr. J. MILLS, in supporting the motion, said he thought the members of the Committee should receive a guinea a night when absent from home.

Dr. J. CHAMBERS said he could not accept that addition to his proposal.

Dr. J. MILLS said that in that case he would not press it.

Dr. J. B. SPENCE thought members as a whole were about to commit themselves to something they knew nothing about; they had no idea what the expenses would be. The next proposition on the agenda was that the coadjutors of the oral nursing examination should be paid. If that were adopted, it would constitute a heavy claim on the nursing certificate profits.

Lieut.-Col. E. W. WHITE said it must be remembered that the Handbook Committee was only a temporary one, which would cease to exist when the handbook had been completed.

The PRESIDENT said that there was not, as yet, any amendment before the meeting, but it was open for further discussion. He thought it would be open for the resolution to read "Third-class travelling expenses." He did not think any member of the Committee was asking for first-class travelling expenses.

Dr. J. CHAMBERS included that in his proposition.

Lieut.-Col. E. W. WHITE seconded the addition.

Dr. W. F. MENZIES desired, as a member of the Committee, to explain that there were certain members in Ireland and the North of Scotland who could not afford to come to London for the meetings, and it came to be a question of either paying the travelling expenses of such members or their being absent from the meetings. In the latter event the Association suffered, because it was without the experience and advice of those members. The greater part of the expenses were hotel bills, and that the members did not expect or ask to have back.

The resolution was carried.

PAYMENT OF COADJUTORS OF THE ORAL NURSING EXAMINATION.

Dr. A. W. DANIEL moved that the coadjutors of the Oral Nursing Examination be paid one guinea for 30 candidates, or under 30; and over 30, two guineas; to include all three examinations; and that the examiners appointed to examine the three papers for the nursing certificates should receive £40 per annum in each case.

Lieut.-Col. J. R. LORD seconded.

The PRESIDENT said this was a new method of paying the examiners. Examiners for the written examination sometimes received a considerably higher fee—when there were many candidates the fees amounted to as much as £70. It was now suggested that the examiners of the written paper should receive a £40 fixed fee per annum. From the money so saved it would be possible to pay the coadjutors something to meet their travelling expenses. It was understood that the candidates for the two examinations, the first and the final, should be taken at the same time; there were no coadjutors needed for the second examination.

Dr. S. R. MCPHAIL said he did not quite understand the position in this matter. Was it the idea that the Association should pay the coadjutors because it provided them? In the past, each superintendent chose his own coadjutor, because, apparently, the President had never declined the nomination of the examining superintendent.

The PRESIDENT replied that there was no alteration in the method of appointing coadjutors. All appointments were subject to the approval of the President.

Dr. S. R. MCPHAIL thought he had in his time examined as coadjutor at fifteen different institutions, and in all except two his out-of-pocket expenses were paid by the particular asylum. Was it not the usual practice for the asylums to pay the coadjutors? He thought it was right and proper for the institution to pay these expenses. He had never asked a man to help him examine without refunding him his out-of-pocket expenses.

Lieut.-Col. E. W. WHITE said he could support what Dr. McPhail said. For many years he had examined at Southern County Asylums—Darenth and neighbouring asylums—and in every instance his travelling expenses had been paid by the committee of the institution. He thought the practice still continued.

Dr. E. S. PASMORE said he did not think, in view of the increase in remuneration of nurses, that asylum committees would agree in future to pay as they did before.

Dr. J. MIDDLEMASS opposed the resolution. It was not the Association which benefited by the examination, but the nurse and the institution to which she belonged. He regarded the proposal as reasonable. He did not think any committee would decline to pay the expenses of a coadjutor if it were put to them. At his institution there was a St. John Ambulance examination, and they were willing to pay four guineas expenses, and he thought the reason inducing the institution to do it in that case would apply in this.

Dr. F. R. P. TAYLOR asked whether it was not true that the Educational Committee, when they met yesterday and fixed the fees for the nursing examination,

took into account the likelihood that they would have to provide this money for the coadjutors. Therefore if the present proposition were negatived he took it that the question of fees would have to come up for a further discussion.

Dr. D. BOWER thought the motion should be divided into two parts: the remarks just heard were not a mere negative. One portion related to the examiner for the written examination, the other to coadjutors for the oral.

The PRESIDENT said that even if travelling expenses were paid it did not say it was for travelling expenses: it was really an honorarium of a guinea. The coadjutor could have his travelling expenses as well. The amount offered for examining thirty was almost an insult. (Hear, hear.)

The motion was approved.

The PRESIDENT said he presumed the payment should begin at the next examination.

MOTION INVOLVING THE EXPENDITURE OF FUNDS.

The PRESIDENT said he had to bring up another matter, which was somewhat new in character, a motion involving the expenditure of funds. As Chairman of the Handbook Committee he had had to move in the matter without the authority of the Association as a whole. It was provided that no motion involving the expenditure of funds exceeding £25 could be approved or arrived at except at an annual meeting. He had received no authority from the previous annual meeting to offer an eminent writer a fee of 25 guineas for writing a special chapter for the handbook on "The Mind in Health." The Handbook Committee thought it advisable to get a psychologist to write this article, who probably had now written the article. He, the speaker, now asked this meeting to sanction the fee, and he asked a member to propose that the fee be paid, if the article should prove to be acceptable.

Dr. F. R. P. TAYLOR said he had pleasure in moving accordingly.

Dr. J. MILLS seconded.

The motion was duly approved.

The meeting then had a desultory discussion on the next Maudsley Lecture, which will be definitely brought up for consideration at the next meeting of the Association.

DATES OF THE QUARTERLY AND DIVISIONAL MEETINGS.

The following dates for the Quarterly Meetings were agreed upon: Thursday, November 25th, 1920; Thursday, February 25th, 1921; Thursday, May 26th, 1921.

The Divisional Meetings were proposed as follows:

South-Eastern Division.—October 14th, 1920, at Three Counties Asylum, Arlesey, Beds.

Northern and Midland Division.—October 21st, 1920, at the Coppice, Nottingham; April 21st, 1921, at Gateshead Mental Hospital, Stannington.

South-Western Division.—October 29th, 1920; April 24th, 1921.

Scottish Division.—November 19th, 1920; March 18th, 1921.

Irish Division.—November 4th, 1920, at Royal College of Physicians, Dublin; April 7th, 1921; July 7th, 1921.

ELECTION OF CANDIDATES AS ORDINARY MEMBERS.

The following lady and gentlemen were elected as Ordinary Members:

WANKLYN, WILLIAM McCONNELL, B.A. Cantab., M.R.C.S. Eng., L.R.C.P. Lond., D.P.H., Principal Assistant in the Public Health Department of the London County Council, Public Health Department, 2, Savoy Hill, W.C. 2.

Proposed by Drs. C. H. Bond, P. T. Hughes, and M. A. Collins.

DUNCAN, JESSIE GALLOWAY, M.B., Ch.B. Glasg., D.P.H. Camb., Assistant M.O.H., L.C.C., Visiting M.O., South Side Home, Streatham; 33, Heybridge Avenue, Streatham, London, S.W. 16.

Proposed by Drs. G. E. Shuttleworth, G. Warwick Smith, and R. Worth.

HARPER, R. SYDNEY, M.R.C.S. Eng., L.R.C.P. Lond., F.R.M.S., Capt. R.A.M.C., Approved Neurologist, Ministry of Pensions, Neurologist in Charge Psycho-Therapeutic Clinic, Ministry of Pensions, Brighton; 4, Adelaide Crescent, Hove, Sussex.

Proposed by Drs. H. E. Haynes, R. Whittington, and R. Worth.

ROSCROW, CECIL BEAUMONT, L.R.C.P.&I.Edin., Medical Superintendent, City Mental Hospital, Winson Green, Birmingham.

Proposed by Drs. J. B. Spence, A. Miller, and Wm. Reid.

SUTCLIFFE, JOHN, M.R.C.S.Eng., L.R.C.P.Edin., Medical Superintendent, Cheadle Royal, Cheadle, Cheshire.

Proposed by Drs. Scowcroft, Dove Cormac, and G. G. Parkin.

CLARK, R. M., M.B.&C.M.Edin., Medical Superintendent, Whittingham Asylum, Lancashire.

Proposed by Drs. R. M. Stewart, B. H. Shaw, and W. Starkey.

HENDERSON, CYRIL JOHN, M.B.Durh., A.M.O., The Royal Albert Institution for the Feeble-minded, Lancaster.

Proposed by Drs. W. H. Coupland, D. M. Cassidy, and David Blair.

LLOYD-DODD, E. H. H., L.R.C.P.&S.I., L.M., Second A.M.O., Leavesden Mental Hospital, Woodside, Leavesden, Watford, Herts.

Proposed by Drs. F. A. Elkins, T. W. Hills, and R. Worth.

KERR, FELIX ARTHUR, M.B., Ch.B.Glasg., A.M.O., Rubery Hill Mental Hospital, Birmingham.

Proposed by Drs. T. C. Graves, C. B. Forsyth, and A. Miller.

WILSON, JAMES LEITCH, M.B., Ch.B.Edin., A.M.O., Brooke House, Clapton, E. 5.

Proposed by Drs. G. H. Johnston, R. H. Cole, and R. Worth.

JACKSON, JOHN LUKE, M.B., Ch.B.Belfast, Senior A.M.O. and Deputy Superintendent, Hants County Asylum, Knowle, Fareham.

Proposed by Drs. H. Devine, F. E. Stokes, and R. Worth.

PAPER.

"The Minimal Requirements for a Small Clinical Laboratory." By W. G. THOMSON, M.A., M.B., Ch.B., D.P.H. Aber., Assistant Medical Officer, County Mental Hospital, Cheddleton, Leek.

I have been asked to outline the apparatus necessary for the setting up of a small laboratory in an asylum and to give the probable cost. I hope those of you who already have a laboratory in full working order will bear with me while I try to show others that the fitting up of a small laboratory where useful clinical and pathological work could be done need not be an elaborate or costly affair.

The late Sir Robert Morant once said—he was talking of general hospitals, but his words apply equally to asylums—that the day of the two hours to a round had gone and the day of two hours to a bed had come. If there be any truth in his words, there is no doubt that laboratory work must have a share in these two hours. How big a share it is to have I do not try to estimate, nor am I concerned with other questions that have been discussed—for example, whether one ought to have centralised laboratories or not. Asylums are usually self-contained units in most things. Why should they not be self-contained in this respect—that each should have its own laboratory?

The great thing is to get a start—a small laboratory will lead to a larger and more fully equipped one, where we may have at least one man working on his own local problems, and possibly trained men working on the bigger general problems. Much material is undoubtedly going to waste in asylums, and the setting up of a laboratory is an economic question. It would help indirectly to keep down the rates. To take a concrete example, we had here, some years ago, a small epidemic of typhoid which involved about forty cases. From the nature of the outbreak and its course we came to the conclusion it was due to a carrier. We had to rely almost entirely on outside help for the detection of the carrier. This help was most costly, and, in the aggregate, cost us more than the setting up of a laboratory would have done. There is also the question of dysentery, which is endemic in a large number of asylums. This disease, in our experience at least, causes more chronic ill-health amongst the patients than almost any other. This means the loss of many working days—days which might be saved if we were able readily to detect carriers. But much patient work will do this, and it can be done, I feel sure, even in a small laboratory.

At this asylum (Cheddleton) we made a modest beginning with laboratory work.

We found an unused room. It was a dull room, so we had it painted white to give us more light. We had a bench made, bought an incubator, centrifuge, and some glassware, and as we already had a microscope we were almost ready to start. The bench we covered with plate glass. This glass had been in the institution for some years. I do not recommend those of you who are thinking of setting up a laboratory to cover your benches with glass. It is an unnecessary expense. A more economical way is to impregnate plain white wood with a solution of copper sulphate and potassium permanganate. This gives a smooth black surface after it has been polished with linseed oil. It is not corroded by ordinary acids.

A reliable microscope would cost at the present time £30 to £40. One must have an oil-immersion lens, and it is the most expensive item. Our bench cost us little. We had it fitted up by our own workmen and patients, who also fixed up for us a sink and shelves. The fitting up of the shelves, sink and bench cost us about £5.

We managed to obtain two cupboards, a couple of tables and a chest of drawers. These we found unused in a store-room, and there are in most institutions similar articles to be found. I cannot estimate the cost of these things. All our glassware, other than bottles which we found in the dispensary, we bought from a firm which deals in laboratory outfits. Much expense can be avoided by using for many purposes ordinary dispensary bottles, especially those with glass stoppers. This glassware, by which I mean flasks, test-tubes, beakers, Petri dishes, funnels, watch-glasses, rods, etc., did not cost us more than £20. We had one bad bargain. Our microscope slides we had to buy at a time when the Government would allow them to be sold only in large quantities, with the result that we have enough to last us for years. This difficulty should not occur again. Our incubator cost us £21 and our centrifuge £7. Both are electrically driven—in fact all our apparatus which require power or heat are worked by electricity. Although this is possibly not the best way, it works very well. We had a few initial difficulties with the wiring. I am led to believe that incubators controlled by gas or paraffin are cheaper, and that a water-driven centrifuge is more steady. We did not invest in a steam steriliser, but we manage to work with a hot-air steriliser and a double-bottomed rice-cooker, with the occasional use of the milk-pan steriliser in the main kitchen. Our hot-air steriliser cost us £16, and a reliable balance, which is essential, cost us £3 10s. These were the heaviest items of expenditure on the bacteriological side.

Our stocks of media and stains we have gradually acquired. We spread the whole cost over some months and the drain has not been heavy. We spent about £7 10s. in buying peptone, agar, sugars, and some of the commoner stains and chemicals. Our cultures we obtained from the Lister Institute at a nominal cost. In addition we have isolated from our own cases strains of typhoid, dysentery and other organisms.

At an outside estimate all the things I have mentioned from the start cost us £80, if we exclude our bad bargain in the slides and the microscope.

On the histological side we bought a microtome and a paraffin bath. The bath, which is worked electrically, cost us £9, and the microtome £7 15s. On the clinical side we have simply added a few instruments to those already in use. A hæmocytometer, hæmoglobinometer, ureometer, and albuminometer can be bought for £5.

It is not very interesting to listen to the reading of a catalogue of apparatus and its cost. I have had prepared a fairly complete list of things necessary for fitting out a laboratory, and if anyone would like a copy I have one here. Our laboratory as it is at the present time cost us £115. I think now if we had to do the whole thing over again that we could save on this amount.

We are now dealing with all the ordinary routine work, by which I mean the examination of sputum, blood, fæces, spinal fluid, stomach contents, throat swabs, urine, etc. We have eliminated typhoid, and are working on our own dysentery problem and on acidosis. We also cut and stain our own sections from *post-mortems*. Much of the burden of routine work has been taken off our shoulders by our laboratory attendant, whom we trained ourselves. He is also our *post-mortem* room man.

It is an additional interest in our work that we are now able to follow up our cases in the laboratory and to see the methods by which full diagnoses are reached.

We have an incentive to keep ourselves abreast, at least in regard to what I might call the purely physical side of our cases.

I know that the difficulty in the way of many asylums has, in the past, been, not the provision of the necessary apparatus, but the lack of medical officers who have the training to take up even simple bacteriological work; but after all this need not be a difficulty. Study-leave is now given in order that a man may take a course in psychiatry. Why should leave not be given so that a man may take a short course, say of three months, in practical bacteriological and pathological methods? Medical superintendents, however, ought not to expect too much from men who are not fully trained. We do not want to divorce the purely clinical side from the other sides of medicine, at any rate in the earlier stages of investigation, if at all.

I have read in the *Journal*—I think in the report of the annual meeting of 1914—that many asylums were then without a laboratory. I do not know how conditions have altered since that time, but the war has shown us the necessity of having a complete medical organisation in each unit, and that organisation is not complete without a bacteriological laboratory.

The PRESIDENT, in calling for a discussion, said the paper was very much to the point, brief, and yet full of information of great value.

Dr. PASMORE desired to compliment Dr. Thomson on a very able paper, and on the lucid and terse manner in which it was put together. He was sure those medical superintendents who had not a fully equipped laboratory in their establishment would be guided to some extent by the estimate of cost which Dr. Thomson had here laid down. He quite agreed with the author that the clinical work ought not to be divorced from the laboratory. If one started a laboratory in a mental hospital, the tendency was often to have a separate pathologist, not altogether a good thing, because such an official did not come into contact with the actual clinical work, and hence was not able to view the work from the two sides.

Dr. A. HELEN BOYLE said she had been much interested in Dr. Thomson's paper from the personal point of view. She had been wanting to get a little place in connection with Lady Chichester Hospital, and she would be glad to see Dr. Thomson's list afterwards, to note exactly what he regarded as the requirements. She was amazed at £115 being sufficient, and the author appeared to think it might be done even for less than that. At the present enormous cost of everything, even of a table, she would have thought it would have been much more. But, probably Dr. Thomson had had more assistance at hand than she would at her hospital. A small laboratory on the spot was an enormous help in any form of clinical work. (Dr. Thomson: The £115 does not include the microscope, which is a great additional expense.)

Dr. TOM A. WILLIAMS (Washington, D.C.) remarked that considerable experience in the differentiation of the work of the laboratory and that of the wards had existed in America, where the policy had been one of centralisation, and the co-ordination of many activities in many asylums into one institution in the same State—a teaching place—generally administered by someone who was a professor in one of the Colleges. This professor had under his control a central laboratory, in which nearly all the work of that State was carried out. In a laboratory of that sort were employed many assistants, some of them highly specialised, and some others who were desirous of specialising in laboratory work, others in clinical work. It was really advanced research, and had been responsible for a definite increase in knowledge in the specialty. The drawback had been that there was a strong tendency towards specialisation, so that the clinical men in the asylums were liable to neglect the operations in the laboratory, and thus fail to realise the importance of that side of the work. This tendency had been largely overcome in the following way: these men were all, in turn, sent for three months to the central institute for special training in laboratory work, methods and aims, from which they returned to their own institutions, so that they might lighten the rest of the staff there with the knowledge acquired. Further, from the central institution were sent, periodically, men specially expert in different spheres of inquiry, either to instruct those in the remote institutions, or to study some special problem, such, for instance, as an outbreak of asylum dysentery. In the course of the study of that special problem they enlisted the sympathy and services of the

staff, and in that way they proved themselves to be very valuable educationally. In the State of Massachusetts, where that was most advanced, and in the State of New York, where it was now nearly as advanced, as well as in the State of Pennsylvania, it had led to the establishment of such laboratories as Dr. Thomson referred to in his paper in every institution, in which the immediate, urgent and necessary routine work was done by members of the asylum staff. It had led, further, to the co-ordination of the activities of the central institution in work which demanded specialised knowledge and training for its solution. Hence in most of these smaller laboratories there was no microtome, no provision for histological investigation, but the material for such was sent to the central institute, where it was worked up. The asylum laboratory became mainly bacteriological and serological, because problems of that kind must be solved on the spot by the clinical men who were interested. In that way smaller laboratories could be established, even for less money than Dr. Thomson's estimate, for the necessary routine work of a mental hospital.

Dr. J. MIDDLEMASS wished, in a word or two, to express his appreciation of Dr. Thomson's paper. All would agree there were many cases, apart from epidemics, which required bacteriological examination in an asylum. Pathological examinations on the spot were of the greatest benefit, as he knew from his own experience—for instance, in examinations of the cortex of the brain. Such an examination had, in many instances, cleared up a doubtful case. Every asylum should possess facilities for a study of that kind: it was very simple, and did not need more than a couple of days for determining whether a case was one of general paralysis. Every asylum would be the better for having some such laboratory as Dr. Thomson had outlined in his paper.

LUNCHEON.

Members were then kindly entertained to luncheon by Dr. and Mrs. Menzies, whose generous and genial hospitality was acknowledged before rising from the table by a few graceful words from the President.

AFTERNOON SESSION.—JULY 27TH.

THANKS TO THE RETIRING PRESIDENT AND OFFICERS.

Lieut.-Col. E. W. WHITE said a very pleasant duty had been assigned to him, one which he felt he was unable to carry out in fitting and adequate terms. It was that of proposing a very hearty vote of thanks to the President and other officers of the Association for the way in which they had discharged their several duties during the past year. The President, Dr. Bedford Pierce, whom they all admired, and whose career they had watched for years past, until he attained his present position, for which he had always been felt to be well fitted, had filled the post in a most thoroughly conscientious and able way, and to the entire satisfaction of the members. He had thereby added, if possible, lustre to the Association, with which he had been closely connected for many years, from the days of Hack Tuke onwards. He had filled the posts of chairman of various Committees, and had done a great deal of detail work for the Association.

With regard to the other gentlemen covered by this resolution, the Association was blessed with very good officers, who denied themselves in every way in order to discharge faithfully the duties of their offices. Sometimes the work had been done under great difficulties, because we were only as yet just emerging from the effects of the great war. Still, the duties had been carried out in a way which must have given those officers a great deal of satisfaction when they reflected upon it.

Dr. BEVERIDGE SPENCE, in seconding the motion, said that after the appreciative and eloquent speech of Col. White it was not necessary for him to add much. Still, he would like to say that he had been struck that morning, as all through the year too, with the eminently business-like way in which the President transacted the Association's business; he always interpreted difficult points clearly, and lucidly expressed the salient features for the benefit of the meeting. As to his old friends, Dr. Miller and Dr. Chambers, and the others who occupied subordinate positions, they had continued their activities to the full satisfaction of the Association generally, and members were sure they were deeply occupied in promoting

the good of the Association in every way. He seconded the motion with much pleasure.

The resolution was carried by acclamation.

The PRESIDENT (Dr. BEDFORD PIERCE) said he would be lacking in feeling if he did not greatly appreciate the kind words which had been uttered by the proposer and seconder concerning the way in which he had discharged his duties as President. The work had been very easy to him, things had gone smoothly, and he thought the Association had during the past year re-established itself after the trying time of the war. He realised that the chief reason of that was the devotion of the officials of the Association; they had been loyally behind him all through in all he had done, so that very much of what had been said of him really applied to them. He did not think he need say more than that when he took up this office he relied upon the support of the Association. That support he had had, and in yielding up the office he thanked members for the very kind way in which he had been helped throughout in the duties he had tried to discharge.

His next—and his last—duty as President was to ask Dr. Menzies to come forward and occupy the chair as President for the ensuing year. He did not think Dr. Menzies would like him to say very much in introducing him; indeed, if he were to do justice to the occasion he would be taking up time which would be more profitably spent in listening to the new President's address. There could be no doubt that Dr. Menzies was a man whom the Association would be delighted to honour. He was worthy of the post; his learning, his experience and his culture fitted him for it; and all very sincerely welcomed him in taking up his new duties as President.

Dr. W. F. MENZIES was invested with the Presidential insignia by the retiring President, and took the Chair.

PRESIDENTIAL ADDRESS.

The PRESIDENT then delivered his address on "The Mechanism of Involutionary Melancholia" (see p. 355), following which the meeting adjourned till the following morning at the Town Hall, Buxton.

GARDEN PARTY.

On the same afternoon the President and Mrs. Menzies entertained the members, ladies and guests to a garden party held at the Hospital. There was quite a large company, including members of the North Staffordshire branch of the British Medical Association and of the Hospital Committee, and residents in the neighbourhood. The gathering was a happy one, the weather being beautifully fine and the grounds were greatly admired. A central feature of the proceedings was the programme of music played both before and after tea by the remarkably efficient hospital orchestra. Dr. Menzies conducted the orchestra, of which he has good reason to be justly proud.

WEDNESDAY, JULY 28TH.

The morning and afternoon sessions were held at the Town Hall, Buxton, Dr. W. F. Menzies in the chair. At the morning session an address was given by Dr. TOM WILLIAMS (of Washington, D.C., U.S.A.) on "A Discussion of some Determinants of Morbid Emotionalism," and a discussion on "Psycho-analytical Teachings as Illustrated in the Psychoses" was opened by Dr. W. H. B. STODDART, whose paper was entitled "A Brief *Résumé* of Freud's Psychology." Following this, Dr. C. STANFORD READ read a paper on "Homosexuality," Dr. W. REES THOMAS on "Sadism and Masochism," and Prof. W. BROWN on "Criticism of Present-day Psycho-analysis." In the absence of the author, Dr. BEDFORD PIERCE read Dr. H. G. BAYNES' paper on "Psycho-analysis."

After luncheon the subject was freely discussed, members expressing their views without reservation and not infrequently in a singularly candid manner. Prior to calling upon the various openers for their replies, the President read an interesting letter on Freud's psychology which had been addressed to the Association by Prof. Friedländer, of Freiburg-i.-Baden, Germany. Owing to the temporary limitations of the size of the Journal it is necessary to hold over these contributions, together with a report of the discussion, until the January number.

RECEPTION IN THE TOWN GARDENS, BUXTON.

The Mayor and Corporation of Buxton and the Buxton and High Peak Medical Society entertained members, ladies and guests of the Association in the Town Gardens to tea at 5.30 p.m. on July 28th. Subsequently members had an opportunity of visiting the Town Baths and Devonshire Hospital, where the modern installation for electro-therapeutic treatment was much admired.

ANNUAL DINNER.

The Annual Dinner of the Association was held at 8 p.m. on Wednesday, July 28th, at the Palace Hotel, Buxton. The function was well attended, the usual "toasts" honoured and a happy evening spent. Ladies were included among the guests and it is hoped that their presence may be an annual event in future.

Owing to inclement weather the excursions arranged for the two following days had to be abandoned.

IRISH DIVISION.

THE SUMMER MEETING of the Irish Division was held on Thursday, June 24th, 1920, at Purdysburn Villa Colony, Belfast, by the kind invitation of Dr. Graham.

Members present: Dr. Graham (in the Chair), Dr. Nolan, Dr. J. O'C. Donelan, Dr. Mills, Dr. Lawless, Dr. Patrick, Dr. Leeper (Hon. Secretary).

Letters of apology for unavoidable absence were received from Dr. Colles, K.C., Dr. Gavin, of Mullingar, Dr. Martin, of Letterkenny, Lt.-Col. W. R. Dawson and Dr. O'Doherty, Omagh.

The minutes of the previous meeting were read and signed.

A great deal of correspondence in connection with the General Nursing Council for Ireland was read, and it was proposed by Dr. Mills, seconded by Dr. Patrick and unanimously approved:

"That Dr. Nolan and Dr. J. O'C. Donelan be nominated by the Division as representatives of the Irish Division of the Medico-Psychological Association on the Sub-Committee of the General Nursing Council for Ireland."

A ballot for the election of an ordinary member was next proceeded with, Dr. Patrick and Dr. Mills being appointed scrutineers. The Chairman subsequently declared that Dr. J. P. Boland, Assistant Medical Officer of Ballinasloe Asylum, was elected a member of the Association.

The meeting next proceeded to consider important matters in connection with the Nurses' Registration Bill, and a letter was read from the Chief Secretary in reply to the communication addressed to him by direction of the Autumn Meeting of the Medico-Psychological Association. The following is the text of the letter:

CHIEF SECRETARY'S OFFICE,
DUBLIN CASTLE;

June 12th, 1920.

Sir,—Referring to your letter of April 21st last on the subject of the Constitution of the General Nursing Council for Ireland, I am directed by the Lord Justices to acquaint you, for the information of the Irish Division of the Medico-Psychological Association of Great Britain and Ireland, that the question of appointing a representative of the Asylum Medical Service or the mental nurses in Ireland will be considered in the event of a vacancy arising on the Nursing Council, or when the Council is being reappointed at the end of three years, if no vacancy occurs in the meantime.

I am to add that, as you are no doubt already aware, two representatives of the Irish Division of the Medico-Psychological Association have been invited to act on a special Sub-Committee of the General Nursing Council appointed to draft rules for the admission of mental nurses to the Register.

I am, Sir,

THE HON. SECRETARY,
IRISH DIVISION,

Your obedient Servant,
C. M. MARTIN-JONES.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF
GREAT BRITAIN AND IRELAND,
JAMES'S STREET, DUBLIN.

The Hon. Secretary was directed to write to the Chief Secretary acknowledging the receipt of his letter, and stating that the Irish Division was glad to hear that the first vacancy upon the Council was to be filled by a representative of the medical or nursing staffs of the asylums.

Questions in connection with the failure of the Government to give the asylum service any representation upon the General Public Health Council of Ireland were discussed.

Dr. Lawless sought the opinion of the members as regards the position of the staff in his asylum, the newly appointed Board having refused to pay the staff salaries owing to some temporary deadlock. Dr. Lawless received the advice of the members.

Subsequently the members visited the Villa Colony, the workshops and other features of interest in connection with the Institution.

Dr. Lawless having been called to the Chair, a cordial vote of thanks to Dr. Graham for his kindness and hospitality and for the very interesting day he had given to the members was proposed by Dr. Nolan, seconded by Dr. Donelan, and passed with acclamation.

The following letter has been circulated (*vide* Report of Quarterly Meeting, p. 66):

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN
AND IRELAND.

11, CHANDOS STREET,
CAVENDISH SQUARE,
April 2nd, 1920.

DEAR SIR,

The Council of the Medico-Psychological Association of Great Britain and Ireland is most anxious that the scope and usefulness of the Association shall be extended, so that it keeps fully abreast of modern developments, and expresses the aims and aspirations of younger members. At the present time new clinics are springing up all over the country under the Ministry of Pensions, and it is believed that it will not be long before the Ministry of Health will provide early treatment for civilians suffering from mental and nervous disorders. This new departure was urged by the Medico-Psychological Association in 1914 and again in 1918, and we believe the Association can and should assist in carrying out this reform successfully.

The activities of the Association were necessarily curtailed by the war, but its members continued to render striking service to medicine during this time in divers fields of work, and now that a new era is at hand, the Council trusts that the Association may once again fulfil its proper function in promoting renewed interest in psychological medicine.

It is of the first importance that all the young men freshly returned from service under war conditions, especially those who have been engaged in research work, or in the treatment of nervous and mental disorders, should become members of the Association, as it is to them we must look for inspiration and progress. Our membership should include all engaged in psychiatry, not merely those interested in the welfare of the insane, but all physicians devoting their energies to the study and treatment of nervous and mental disorders.

We believe the Association can render signal service to the community in facilitating the interchange of ideas, in stimulating research, and in publishing in its journal reports of success and of failure in treatment.

The object of the letter is to ask all our members to encourage anyone they know to be interested in psychiatry, whether engaged in hospitals, clinics, private institutions, or pension boards, to apply for membership. An appeal of this kind can, however, hardly be attended with success unless it is found to be worth while to join the Association.

The following facts may be mentioned:

(1) The Medico-Psychological Association has a membership extending throughout the whole of Great Britain and Ireland.

(2) Through its Standing Committee it has done, and is still doing, most valuable work. The Parliamentary Committee watches all new legislation. The Educational Committee successfully stimulated University Authorities to establish special diplomas in Psychological Medicine. It controls the Examinations for the Nursing Certificate, which has been of such striking value in improving the training and status of mental nurses.

(3) Special Committees are frequently set apart to initiate new developments, and the Association has a successful record of work carried out in this way.

(4) The *Journal of Mental Science* takes a high place in the literature of Psychological Medicine. Under new conditions it will again grow in size and importance. Besides publishing original articles it contains an excellent abstract of current literature. No one interested in the subject can afford to ignore the *Journal of Mental Science*, whilst its pages have not rarely first brought to the notice of the public a new worker in psychiatry who subsequently has become distinguished.

But we believe the chief value of the Association lies in the facilities it provides for the interchange of ideas and the discussion of difficulties and problems. Further, there is a manifest gain from the personal intercourse at the meetings of members united by a common bond of interest. The Association is a democratic body, innovations calculated to enhance its usefulness are welcomed, and in the new order of things that has commenced the signatories to this letter believe that the members generally will gladly support new developments likely to advance the objects of the Association.

Yours very truly,

(Signed) BEDFORD PIERCE, *President*.
JAMES CHAMBERS, *Hon. Treasurer*.
REGINALD WORTH, *Hon. Secretary*.

P.S.—Members are elected at the General and Branch Meetings of the Association. Forms of application for membership can be obtained from the Hon. Secretary, Dr. R. Worth, Springfield Mental Hospital, Tooting, London, S.W. 17, and should be returned to him a month before the meeting at which election is desired, so that the names may appear in the Agenda.

MINISTRY OF HEALTH: FIRST ANNUAL REPORT (1919-20).

LUNACY AND MENTAL DEFICIENCY (TRANSFER OF POWER ORDER), 1920.⁽¹⁾

It was always intended that the Ministry of Health should become the Department responsible for the care and treatment of lunatics, but the Home Secretary's powers could not be transferred in their entirety, as they included powers in relation to criminal lunatics which could not be dissociated from the general administration of criminal law. Section 3 (2) (b) of the Ministry of Health Act, 1919, accordingly provided for the transfer by Order in Council to the Ministry of all or any of the powers and duties of the Home Secretary under the enactments relating to lunacy and mental deficiency. A draft Order in Council was prepared in consultation with the Home Office and laid on the table of both Houses in the autumn of 1919. But certain minor amendments proved to be necessary, and a fresh Order had to be laid at the beginning of the present Session, with the result that the actual transfer of powers did not take effect until May 17th, 1920. This Order in Council marks an important step in the process of centralising all health administration in a single department, and the Minister of Health is now responsible to Parliament for the administration of the Board of Control. No change is made in the constitution or procedure of the Board, but the effect of the Order is to allow of the treatment of mental diseases being co-ordinated more closely with the treatment of other forms of disease than would have been possible while the responsibility for the administration of the Lunacy and Mental Deficiency Acts rested with the Home Secretary.

⁽¹⁾ Statutory Rules and Orders, 1920, No. 809. [Price 1d. net.]

TREATMENT OF INCIPIENT MENTAL DISORDER.

DR. ADDISON, the Minister of Health, presented the Ministry of Health (Miscellaneous Provisions) Bill in the House of Commons on Monday, August 16th.

Clause 10 relates to treatment for incipient mental disorder. It sets out that :

"(1) Notwithstanding the provisions of any Act, a person shall not, if the required conditions are complied with, be liable to any penalty for receiving to board, lodging, or taking charge of for a period not exceeding six months, or such longer period not exceeding in all twelve months, as may be approved by the Minister, and whether for payment or not, any person suffering from mental disorder which is incipient in character and of recent origin, but not being a person who has been certified as a lunatic under the Lunacy Acts, 1890 to 1911, or in respect of whom an order has been made under the Mental Deficiency Act, 1913. Provided that nothing in this section shall authorise any person who has been received into any institution, home, or house under this section to be detained therein if he delivers to the superintendent or other person, by whatever name called, having the charge of the institution, home, or house, or sends by post to the Minister, notice in writing that he desires to be discharged therefrom.

"(2) The required conditions for the purposes of this section are as follows :

(a) The institution, home, or house in which the person is received must be approved for the purposes of this section by the Minister. (b) No such person shall be received into the institution, home, or house except with his previous consent in writing and except on a certificate in writing by two duly qualified medical practitioners to the effect that that person is reasonably likely to benefit by treatment therein. (c) The superintendent or other person, by whatever name called, having charge of the institution, home, or house, shall on the demand of any person having authority to inspect the institution, home, or house produce all such written consents and certificates as aforesaid. (d) The reception under this section of any person into the institution, home, or house shall be reported to the Minister by the superintendent or other person aforesaid.

"(3) Any institution, home, or house approved by the Minister under this section shall be periodically inspected by officers appointed for that purpose by the Minister.

"(4) The Minister may make regulations for the purpose of carrying this section into effect."

The maximum penalty for a contravention of the section is a fine of £100 or imprisonment for six months, or both fine and imprisonment.

Regarding Dr. Addison's proposals in this connection, the *British Medical Journal*, August 28th, makes the following observations :

"Among the medley of clauses in Part 2 of the Ministry of Health (Miscellaneous Provisions) Bill, Clause 10, dealing with incipient mental disorder, alone has the appearance of a step in constructive legislation. This lays down that, provided the required conditions are complied with, it shall not be an offence to receive for six months (or such longer period, not exceeding in all twelve months, as may be approved by the Minister of Health), and whether for payment or not, any person suffering from mental disorder which is incipient in character and of recent origin, but not being a person who has been certified as a lunatic, or in respect of whom an order has been made under the Mental Deficiency Act, 1913. Attached to this is the proviso that nothing in the clause shall authorise anyone who has thus been received into an institution, home or house, to be detained there if he delivers to the person in charge or sends by post to the Minister notice in writing that he desires to be discharged. Stated shortly, the clause enables a person suffering from incipient mental disorder, but not certified under the Lunacy Acts, to be received, with his own consent, in an institution approved by the Minister, for a period of six months, without exposing those who receive him to penalties under the Lunacy Acts.

"The required conditions are: (a) The institution, home, or house must be approved for the purpose by the Minister; (b) no person shall be received therein except with his previous consent in writing and except on a written certificate by two medical practitioners to the effect that he is reasonably likely to benefit by treatment therein; (c) the superintendent or other person in charge shall, on the demand of anyone having authority to inspect the place, produce all such written

consents and certificates; (d) the reception under this clause of any person shall be reported to the Minister by the person in charge. Lastly, it is provided that any institution, home, or house approved by the Minister shall be periodically inspected by officers appointed by him for that purpose, and that the Minister may make regulations for carrying the clause into effect.

"These provisions follow roughly the lines advocated severally by the Board of Control in 1917, by a special committee of the Medico-Psychological Association, whose interim report appeared in November, 1918, and by the Guildhall conference on asylum committees in February, 1919. Clause 10 approximates most closely to the proposals of the Board of Control, of which a full account was given in our issue of April 10th, 1920, at page 515. It is to be observed that this clause takes the form of an amendment to, and not a comprehensive revision of the Lunacy Acts. It is purely permissive in character, leaving the whole question of the provision of accommodation and treatment for these cases to the interplay of demand and supply: whereas the Medico-Psychological Association urged the need of imposing upon local authorities the duty of providing the requisite treatment either directly or through voluntary organisation, and insisted that there should be special staffing and special management for these institutions. If, however, Clause 10 is read with Clause 11 (which we discuss elsewhere) it will be seen that some provision is made for development in this direction. We may note also that Clause 10 provides for cases of mental disorder 'incipient in character *and* of recent origin.' This seems a less elastic definition than that offered by the Board of Control, which implied a distinction between cases incipient in character and those of recent origin.

"The Bill states that inspection will be by 'officers appointed for that purpose by the Minister,' but until the regulations are made known it is not clear whether the new arrangements contemplated for incipient and recent cases of mental disorder are to be administered and supervised, on behalf of the Minister, by the Board of Control or not. Many of those who have pressed for this reform have insisted on the importance for its success of separating these arrangements entirely from the ordinary lunacy administration, whether central or local, for fear that any association with it would fatally prejudice the new method in the eyes of the public. A memorandum on the Bill, published this week by the Ministry of Health,⁽¹⁾ implies that this separation will be brought about under the operation of Clause 10. 'The importance of early treatment of these cases,' it says, 'wholly dissociated from the machinery of the Lunacy Acts, is now generally recognised, and the powers given by the clause will be especially useful in cases of shell-shock and similar nervous disorders.' Unless the public can be induced voluntarily to make use of the facilities proposed at the very onset of the disorder, and before things have come to such a pass that something drastic has to be done, they will fail to attain one of the most important objects in view, which is to arrest the disorder and restore the normal balance.

"The proposed method of detention under this Bill is in its essentials an extension of the 'voluntary boarder' system, and the formality of a written application for admission is still required as a necessary step previous to reception. Such a requirement often deters the patient from making use of the present provisions and we regret its retention. It would be better, we believe, to assume that a person desiring treatment under this clause consents by implication to such restriction of his liberty as is necessary for his treatment, subject to the provision that he can at any time resume his liberty by giving notice in writing to that effect. This is practically the way in which cases of mental disorder occurring in patients in general hospitals have been dealt with informally in the past without difficulty and without abuse.

"It is satisfactory to note that provision is made for the extension of the period of treatment from six months, as originally foreshadowed as the standard period, to one of twelve months, with the approval of the Minister. Six months is sure to be inadequate for complete recovery in many cases suitable for treatment under these provisions. It is, however, not quite clear why a person who has once been certified under the Lunacy Acts and has recovered should be debarred from taking advantage of these provisions in the early stages of some later onset of disorder."

(¹) Cmd. 898. H.M. Stationery Office. Price 1d.

TREATMENT OF INCIPIENT MENTAL DISORDER.

(Vide Brit. Med. Journ. September 11th, 1920.)

SIR,—With reference to your observations in the issue of the Journal of August 28th upon Clause 10 of the Ministry of Health (Miscellaneous Provisions) Bill, if you will allow me to say so, the criticisms of your last two paragraphs single out what appear to be the weakest points in the new provisions.

(1) Any extension of the "voluntary boarder" principle I regard as a mistake. Insistence on the previous consent in writing of the person to be received will often act as a deterrent. Then there are the cases whose mental state is so disordered that they are not in a position to give or withhold consent. The disorientation, the incapacity to form a judgment or take a decision, are evident, yet the disorder may fairly be considered as "incipient in character and of recent origin." Is the door of a psychiatric clinic to be "banged, bolted and barred" on these? If so, where is the medical student of the future to study them? It seems unfair to both parties to compel them to journey out to the asylum.

(2) As regards the provision by which a person who "has been certified as a lunatic" is ineligible for treatment under the new conditions, is it possible this can mean that a person shall not be admitted to the new institutions and homes concerning whom there are in force certificates under the Lunacy Acts? Upon first reading the clause, as a plain man accustomed to understand plain English "as she is wrote," I naturally put the same interpretation as you do upon this proviso. I fear we must assume that this interpretation is correct, notwithstanding that it might well puzzle all the notaries in Padua to explain why persons aforesaid certified under the Lunacy Acts, and recovered, are ineligible under the new conditions—are to be shuffled off as encumbrances on the march of progress. Those of us who have dealt with these cases—who are aware that large numbers of them need not have been certified under the Acts had the provision now contemplated been in existence, and who know that, in case of relapse, recertification and recommitment to the asylum would be unnecessary were the provision in existence—anxiously await the reasons for this exclusion. Are these unfortunates, like the Board of Control, to whom access to the new institutions, etc., would be barred by some, looked upon as bespattered with unsavoury oils from the "machinery of the Lunacy Acts—as 'damaged goods'?"

Doubtless an early meeting of the Medico-Psychological Association and of the National Association of Mental Hospital authorities will be called to consider the provisions of Clause 10.—I am, etc.,

EDWIN GOODALL,
Cardiff City Mental Hospital.

August 30th.

HOSPITAL TREATMENT OF THE PSYCHOSES AND PSYCHONEUROSES.

By EDWIN GOODALL, C.B.E., M.D., F.R.C.P.Lond.

(Abstract.)

THE following suggestions are concerned particularly with patients other than in the Metropolis who are either of the usual hospital class or not able to pay more than from two to five guineas a week, most of them only able to pay such fees for about six months. Under the designation "psychoses" would be comprised the various varieties of mental disorder, mainly in an early phase. The psychoneuroses would be illustrated by the borderland states, with mixed mental and "nervous" manifestations; psychasthenia or neurasthenia, with obsessions or imperative ideas; morbid doubts and fears; tics, with psychical perversion; psychoses associated with disorders such as Graves's disease or chorea; mixed nervous and psychical disorders after mental or physical shock; psychoses associated with minor epilepsy.

How could they be comprised in such a scheme as has been sketched in the Interim Report of the Consultative Council on Medical and Allied Services? On consulting the Report it will be seen that the only reference made to mental disease is under "Supplementary Services" (pars. 14 and 74). Amongst these

services come "hospitals for curable or incurable mental disease." So that the patients now referred to would merely be provided for in a supplementary fashion, together with, for instance, cases of tuberculosis, of infectious disease, and of epilepsy suitable for colony care. Incurable mental disease could be adequately provided for thus, but not curable. The psychoses and psychoneuroses together constitute a vast and oppressive liability, which, I maintain, cannot be discharged through the medium of a mere supplementary service.

One may conceive cases of the psychoses and psychoneuroses as occurring in a certain area, and provision being made for them under the general scheme of the Interim Report as follows (existing buildings, modified or enlarged, to be used for the present; the psychiatric clinic would require to be a new building):

(a) In a rural district, where the most modest requirements of an indoor clinic or hospital are scarcely available and the needs of patients would have to be met under the next heading.

(b) In a small town able to furnish a building worthy to rank as a hospital (primary centre). Here there would be comparatively modest equipment for diagnosis, clinical laboratory work, and medical and surgical treatment.

(c) In a large town containing a hospital in an adequate sense, with visiting medical staff, some with training in special directions; a resident medical officer or two; some of the nurses specially trained in various directions, with one or two capable of conducting, with some tuition, a class of Swedish exercises; with masseuses; with laboratory facilities of a fairly extensive kind and technical apparatus; with out-patient department—in fact a hospital equipped with everything entitling it to rank as a secondary centre.

(d) In the town wherein is situated a medical school, with its associated hospital, research and laboratory workers, teaching facilities, and consultants—the teaching or tertiary centre to wit; the *ne plus ultra* when the lacking clinic in psychiatry, complete internally, with its out-patient department in association with other like departments of the hospital, shall have been established.

Those who have experience, be they general practitioners or specialists, of the difficulty and inappropriateness of dealing with—I will not say treating—these patients in their homes will fully appreciate how much the application of the three-centre scheme will mean to them. In my judgment the first desideratum is to get them away from home surroundings and from relatives. Is there any class of invalid to whom this applies with equal force? Solve this difficulty by providing for these cases on the three-centre system, and their treatment is at once placed on a sound footing, and the haunting fear of the alternative to home—the asylum—will fade, treatment will commence in reasonable time, and less will be heard of the need for extending asylums. In making such provision regard must be had to special requirements. Whether cases of the psychoses and psychoneuroses are received under (b), (c) or (d) of the above scheme, they will require facilities under the following headings:

A room or ward so arranged, supervised and administered, that means of self-injury are reduced to a minimum; one or more single rooms for isolation; a nurse or nurses, trained in mental disorders (preferably with general training also; the combination is more and more to be found); one or more masseuses, according to requirements; facilities for open-air rest in bed, for regular weighing; douches, open baths, available for prolonged warm-bath treatment—under (d) baths maintaining a constant level and temperature; a garden for exercise and occupation; facilities for indoor occupation, especially handicrafts—under (d) suitable shops, sewing-room and gymnasium, and other facilities for treatment under this special heading, which need not be specified here.

As regards *diagnosis and medical advice*, the principal and second medical officers of the nearest public mental hospital should be available for consultation, as also the director, or one of the staff, of the nearest psychiatric clinic. I would suggest that the domain of the psychoses and psychoneuroses is quite peculiarly one in which the general practitioner finds himself, and will continue to find himself, in need of expert advice, and that he will not commonly take the sole responsibility of deciding how the patient should be disposed of. I think a special case can be made out for an arrangement under the general scheme, with the agreement of the controlling authorities of mental hospitals and psychiatric clinics, whereby a reasonable fee is payable to the staff of these institutions for

this consultative work out of local or State funds, in cases where the patient has no means. In suitable cases, and where distance allows, the patient can be sent by his doctor to the out-patient department of the nearest psychiatric clinic, or of the nearest mental hospital, should such department exist at the latter, and advice as to his disposal be thus obtained. However obtained, expert advice could decide whether the patient should be dealt with in hospital under (b), (c) or (d); whether—exceptionally—by reason of the gravity of his symptoms, notwithstanding their recent origin, or of insufficient accommodation being available under (d), the case should go to a mental hospital. When the case falls to be treated under (b), his own doctor should look after him, whenever possible, expert advice being available. Under (c) the patient will be under the care of a member of the visiting staff. Expert advice in this instance will, for a time, only be available from the mental hospital and psychiatric clinic, the senior staff being placed on the visiting staff of the hospital. But these clinics will in time furnish specialists for the large towns, who will be on the staffs of the hospitals with psychiatric wards. The consulting work of the district would be done by the director of the clinic and by these specialists. As consulting work is an essential part of the recommendations of the Interim Report, the need for clinics in psychiatry, in this instance for the training of consultants, is once more emphasised.

It is highly desirable that patients who are convalescent from the maladies here dealt with—and no doubt the same is true of most diseases—should not return direct to their homes, but through a convalescent home or sanatorium. Recuperative centres are, I observe, recommended (para. 74) in the Interim Report.

If the psychoses are to be dealt with under a three-hospital system a modification of the Lunacy Laws will be necessary, and therefore the recent presentation in the House of Commons of the Ministry of Health (Miscellaneous Provisions) Bill, which authorises under Clause 10 the care and treatment of cases of mental disorder "incipient in character and recent in origin," notwithstanding the provisions of any existing Act, is welcome. I observe nothing in the proposals of the Minister of Health which would render impracticable the scheme of care and treatment herein outlined, though the observance of certain formalities, such as the notification of reception, the production on authorised demand of written consents and certificates, is likely to prove irksome and to cause resentment at the outset. No vivid imagination is needed to forecast the administration hereafter, in whole or in part, of a three-hospital system, under Clause 11 of the Bill, by local authorities. These should meantime be diligently advised to insist on provision under any such system for cases of the psychoses and psychoneuroses.—*Vide Lancet*, September 11th, 1920.

DIPLOMAS IN PSYCHOLOGICAL MEDICINE.

THE needs for schools of psychiatry were well stated two years ago in the annual report of the Board of Control, when attention was called to deficiencies in the arrangements as at present organised for the treatment of persons suffering from mental disorder, especially in its early stages. During the two years that have elapsed both the loss to the country and the hardship to individuals resulting from insufficient attention to incipient mental cases have been recognised by the medical profession and all sections of the thinking public, so that any educational development improving the scientific position of psychological medicine will meet with warm approval.

Diplomas in psychological medicine, though of comparatively recent date, have been instituted at various centres for some ten years, while affiliation of mental clinics to the teaching in general hospitals has been much recommended. When this takes place there will be no dearth of suitable applicants for posts at asylums, for many young men can then be trained to take up the work in sympathetic and scientific spirit. But before the lunacy service can become attractive, the views of the Board of Control, which have been stated to the visiting committees of asylums, must receive practical expression by a general improvement in salaries, in accommodation for married officers, and by the provision in asylums for the more effective treatment upon modern lines of recoverable cases. The following bodies have now arranged to grant diplomas in psychological medicine or

psychiatry, namely, the Universities of Manchester, Leeds, Edinburgh, Cambridge, Durham, and London, and the Royal College of Physicians of London. The regulations for obtaining these diplomas point to much similarity in the scope of the examinations, though there are differences in the duration of the courses and the syllabus, details of which can be obtained from the various examining bodies.

The necessity for raising the standard of the training for assistant medical officers in asylums, and of affording facilities for such training, is very real. If the authorities give proper preference to the candidates for vacancies who possess diplomas or degrees in mental disease the status of this branch of the medical profession will be automatically raised, and pay and conditions of service will have to be made commensurate. It is necessary that the authorities should make arrangements to grant study-leave on full pay to their Assistant Medical Officers, especially if it is the object of these officers to obtain a diploma which they were previously without; and augmented salary might well be paid to successful examinees. In the face of the facts acquired in recent years as to mental health, it is necessary that psychological medicine should now form an integral if special part of medical education, so that no University should willingly be without such an organic unit as a school of psychiatry.—*Lancet*, August 28th, 1920.

The study of mental diseases has long been a necessary part of the ordinary medical curriculum, and psychiatry is one of the branches of medicine which candidates for the M.D. degree of the Universities of London and Edinburgh can take up. In addition, diplomas in psychiatry or psychological medicine can be obtained from the Universities of Cambridge, London, Edinburgh, Durham, Leeds, Manchester, and the National University of Ireland, and from the Royal College of Physicians of London. The Medico-Psychological Association of Great Britain and Ireland also grants certificates of proficiency after examination, and encourages the study of psychiatry by the offer of prizes for original and research work.

Those who take up psychiatry as a career work as medical officers of public or private mental hospitals, or similar institutions. In practically all cases they are resident officers, having board, lodging, etc., either in the hospital itself or a residence in the grounds. Junior assistant medical officers receive about £300 per annum and senior assistant medical officers about £500, in both cases with board, lodging, laundry, etc., in addition; if married the value of board, etc., is commuted for cash. Medical superintendents, whose pay commonly ranges between £800 and £1,500 per annum, are provided with a house in the grounds of the hospital and draw various allowances.

Since the passing of the Asylum Officers' Superannuation Act in 1909, all officers and others of the established staff of a mental hospital may retire at the age of 55 on a pension varying from one-half to two-thirds of the value of their pay and emoluments, or one-fiftieth for every year served, paying as contribution 3 per cent. of the value of their appointments annually. This very favourable prospect may not appeal to juniors joining the services, but is an eventually valuable asset.

Mental hospital work has undoubtedly not been in favour with newly-qualified medical men in years past, the principal reasons alleged for this being as follows: (1) It is a local and, except indirectly, not an imperial service; this tends to slow and uncertain promotion. (2) The rule or custom hitherto prevailing, that assistant medical officers may not marry and are merely perpetual house-surgeons, living as bachelors in rooms. (3) That much of their work is clerical, administrative and routine, which, if not destructive to the medically trained individual, is at least not conducive to scientific medical initiative, as in medical service in the army or other public services, rather than the possibly more attractive general hospital, or private practice, work.

In March, 1920, the Board of Control did useful service by issuing to visiting committees of asylums a circular upon the three following matters: (a) The dearth of suitable applicants when vacancies occur for the post of assistant medical officer, and the probable causes thereof; (b) the need for the provision for the more effective treatment upon modern lines of recoverable cases of mental disorder; (c) the necessity for raising the standard as to the training of existing and future assistant medical officers in asylum practice, and of affording facilities for such training.

Under (a) the Board of Control, after pointing out some of the disadvantages of the present state of affairs, made the following suggestions:

(i) That an improvement be made in the salaries of the assistant medical officers, at least to such an extent that in the cases of all those who have been in the service above a certain number of years and are regarded as permanent officials, the salary should be reasonably sufficient for a married medical man, and that in the case of the deputy superintendent it should more closely approximate than at present to that of the superintendent.

(ii) That, in the case of a permanent official, application for permission to marry be not required; that, according to circumstances, proper accommodation for a married man be provided, and that, subject to rules approved by the Secretary of State for the protection of the patients, and with due regard to the proper administration of the institution, permission to live out may be granted.

(iii) That to the title of assistant medical officer the words "and deputy superintendent" should be added to that of the one selected to be in charge during the absence of the medical superintendent.

(iv) That the use of the title "senior assistant medical officer" should not be restricted as at present to the post of first assistant, but should be extended and be indicative of a certain standing and expert knowledge. By the adoption of this suggestion there would in many asylums be two senior assistant medical officers, and perhaps even three or four in the largest asylums.

(v) That, except where there has been previous asylum experience, appointments to posts of assistant medical officers should in the first instance be temporary in character.

Under (b) the Board suggested that the treatment of recent recoverable cases should be carried out by members of the medical staff conversant with modern methods, and that the number of the medical staff should be sufficient to ensure that none of them is required to undertake the treatment of more than fifty recent cases at any one time.

Under (c) suggestions were made with a view to encouraging assistant medical officers to obtain a diploma or degree in mental diseases, including provision for study-leave on full salary. The attitude of the Board of Control is clearly shown in the following sentence: "If the welfare, treatment and recovery of patients is not to be jeopardised and the study of mental diseases is not to lag behind the study of other branches of medicine, the Board feel the necessity of initiating measures to maintain progress and to secure the best possible treatment of the patients." Readers who wish to go further into this subject may be referred to an interesting paper⁽¹⁾ read before the Medico-Psychological Association in November, 1919, by Dr. C. Hubert Bond, on the need for schools of psychiatry. In this Dr. Bond urges the need for mental clinics and schools of psychiatry, and reviews the progress that has been made towards realising the measures, powerfully advocated in 1908 by Lieut.-Col. D. G. Thomson, for supplying adequate instruction in the institutes and practice of psychiatry.

Both the British Medical Association and the Medico-Psychological Association are working separately and together to improve present conditions of service, and have, for example, already removed the "celibacy" objection to the service.

Finally, it may be said that, as in the Army Medical Service or other public medical services, while routine, administrative and clerical work bulk largely in mental hospital duties, there is ample material, time and scope for purely medical work, difficult as the subject may be, in psychiatry as one of the branches of medicine open to young graduates.—*Vide Brit. Med. Journ.*, September 4th, 1920.

(¹) *Journ. Ment. Sci.*, January, 1920.

EDUCATIONAL NOTES.

Maudsley Hospital.—It has been decided to repeat Part I of the course for a diploma of psychological medicine and to run it concurrently with Part II during October, November and December—in other words to commence the Second Course 1920–21 this October. The syllabus published on p. 194 (April number) remains the same, except that as regards Part I the lectures are reduced to eight in

number and Dr. Henry Devine replaces Dr. J. V. Lowson as the Lecturer on Psychology; and as regards Part II courses 5 and 6 are withdrawn. Part II of the Second Course will follow in January, 1921, a further announcement regarding which will be made in due course. Inquiries as to lectures, etc., should be addressed to "The Director of the Pathological Laboratory, Maudsley Hospital, Denmark Hill, S.E."

University of London.—We have received from the Registrar of the University Extension Board a copy of the regulations for obtaining the recently instituted diploma in psychological medicine. The examination is in two parts—A and B—the former in March and October, the latter in April and November. Candidates must be on the Medical Register, and before admission to Part B must have held for not less than six months a resident appointment at an institution for mental diseases recognised for the purpose, or have attended for not less than twelve months the practice of such an institution. Part A comprises a paper and a practical examination in the anatomy, histology and physiology of the nervous system and of a paper and an oral examination in psychology.

Part B comprises a paper, a clinical and an oral examination in neurology, and two papers, a clinical and an oral examination in psychological medicine. As regards the papers there will be alternative sections to enable the candidate to show either a higher knowledge of mental disease and a less advanced knowledge of mental deficiency or *vice versa*.

The examinations commence for the first in October and November. For further information application should be made to John Lea, Esq., M.A., University Extension Registrar, University of London, South Kensington, S.W. 7.

OBITUARY.

DR. JOHN BATTY TUKE.

Superintendent, New Saughton Hall, Midlothian.

THE elder surviving son of the illustrious Sir John Batty Tuke passed away on April 11th at a nursing home in London. Dr. John Batty Tuke was born in 1860, and after passing through the Edinburgh Academy, where his father before him was educated, graduated M.B., C.M. Edinburgh University in 1881, and took the degree of M.D. in 1890. In 1887 he became a Member of the Royal College of Physicians, Edinburgh, and was raised to the Fellowship in 1889. As might have been expected, he followed in his father's footsteps and selected psychiatry as his life's work. He first acted as Assistant Medical Officer to the Royal Asylum, Montrose, and then as Resident Clinical Assistant at Wakefield Asylum, a post which has been held by many of the foremost members of our specialty. Later he joined his father in the management of Saughton Hall and later of New Saughton Hall, and finally succeeded him as Medical Superintendent of the latter hospital in 1913. He had also a consulting practice, and was Physician for Mental Diseases to the New Town Dispensary, Edinburgh. Although overshadowed by his father's unique personality and great reputation, he was a gifted alienist, a thoughtful and painstaking physician, and had many friends who will miss him much. His publications were few, but the proposal made in 1913 that confinement in an asylum for five years should be a ground for divorce roused his considerable opposition. He pointed out that many patients recovered long after that period had elapsed, instancing a case under his care which recovered completely after an attack lasting seventeen years. He maintained that the opportunity for child-bearing enjoyed by women who are in and out of asylums owing to the occurrence of short attacks of mental trouble, say, connected with the puerperium was more likely to assist race deterioration than in the cases of women not infrequently set at liberty after five years' or more detention. If insanity was to be a ground for divorce, then why not tuberculosis? he asked. However, Tuke (junior) was essentially a quiet, unassuming man, who did his day's duty silently and well and was not by nature a controversialist. Latterly he was known to be suffering from a serious disease, but the end came unexpectedly early.

NOTICES BY THE REGISTRAR.

Nursing Certificate.—The next examinations will be held as follows :

| | | | | | | |
|-------------|---|---|---|---|---|---------------------|
| Preliminary | : | : | : | : | : | November 1st, 1920. |
| Final | : | : | : | : | : | November 8th, 1920. |

EXAMINATION FOR THE CERTIFICATE IN PSYCHOLOGICAL MEDICINE,
JULY 6TH, 1920.

1. Describe the histological changes in general paralysis of the insane.
2. Give a clinical account of a case of paranoia.
3. Detail the treatment in a case of senile insanity.
4. Discuss the differential diagnosis between general paralysis and arterio-sclerotic brain disease from the point of view of mental, physical and serological findings.
5. State briefly some of the psycho-analytic theories. Give examples of some of the more common complexes.
6. Write a note on "alternating insanity." What is the prognosis in such a condition?

Successful Candidate: Dr. J. N. Russell, of Wakefield.

EXAMINATION FOR THE NURSING CERTIFICATE, MAY, 1920.

Preliminary Examinations.

1. Describe fully the respiratory system and the blood changes that take place as a result of respiration.
2. What are the symptoms of a patient who has taken a corrosive poison, and what treatment must be adopted by the nurse?
3. How is meat digested, and how is the resulting peptone finally absorbed into the blood?
4. What are the different kinds of joints? Name the bones which go to make up the elbow-joint, hip-joint, knee-joint.
5. Describe the emergency treatment you would adopt in a case of shock following a severe injury.
6. State the position in the body of the following organs: Liver, spleen, pancreas, kidneys, heart.
7. How is the pulse produced? Where is it best felt? What is the pulse-rate and how is it related to the heart-beat?
8. What first-aid treatment would you render for a sprained ankle?

Final Examination.

1. State exactly the steps you would take to control hæmorrhage in the case of (1) a ruptured varicose vein, (2) bleeding from the nose, (3) a severe wound on the front of the arm.
2. Describe fully all the causes you know of which may produce refusal of food in a patient.
3. State in detail how you would endeavour to interest and employ your patients on a wet day when they were unable to be out of doors.
4. Describe and compare (1) an hysterical fit, (2) an epileptic fit, (3) a seizure in general paralysis of the insane, (4) an apoplectic seizure. What are the nurse's duties in each case?
5. What urinary troubles are common among insane patients? What points should the nurse observe and report to the Medical Officer regarding a patient's urine?
6. What would lead you to suspect suicidal tendencies in a patient? What must a nurse do to avoid the risk of suicide in the case of any patient under her care?
7. State the cause of phthisis or consumption. Describe the ordinary symptoms, and the precautions necessary in nursing.
8. What is (a) a motor nerve, (b) a sensory nerve, and what are their functions?

NURSING EXAMINATION FOR CANDIDATES IN MENTAL DEFICIENCY WORK,
MAY, 1920.

Final Examination.

1. Describe briefly the organs of respiration and their functions in health, and state the more common forms of respiratory disease, mentioning the signs and symptoms of those to which mentally deficient children are particularly prone.
2. Name some of the physical peculiarities and the affections of sense-organs frequently found associated with mental defect. What do you understand by the expression "*stigmata of degeneration*"?
3. What do you regard as the distinctive difference between cases classed as *insane* and those dealt with as *mentally defective* under the Mental Deficiency Act, 1913? How are the latter classified under that Act?
4. Mention the more striking varieties of type observed amongst mental defectives, and describe the characteristics, physical and mental, of the *microcephalic* type.
5. What points would you specially note on the admission to an institution for defectives of a patient entrusted to your care?
6. What sign would lead you to suspect that a child under your charge was sickening for measles? Give an account of the usual course of the disease, of possible complications, and of nursing precautions to be adopted.
7. Give some account of methods of manual and physical training and of industrial occupation found serviceable in institutions for defectives.
8. State what bad habits have specially to be guarded against in the case of mental defectives, and what measures you would take to check evil practices.

PRELIMINARY EXAMINATION, MAY, 1920.

List of Successful Candidates.

- Three Counties, Hitchin.*—Florence Brown.
Berkshire.—William Fry, Simeon J. Scard, W. H. Melbourne, Harriett Kirk, Grace M. Kirk.
Cambs, Fulbourne.—A. F. Wilkins, Jessie W. Cornell, Charles Holder, Verney Hodgman, Albert F. Minett, Kate Pickstone, Ellen A. Thurston, Rose P. Deacon.
Chester County.—Nesta C. Morris, Ellen Bungay, Anne Williams, Alice E. Edwards, Annie Riley, Henry T. Bromley, Joseph Ellis, John Jenkinson, Thomas Whalley, Harold Titley, John F. Pottle.
Macclesfield.—Thomas Coppock, Ernest Young, Harry Bannister, Catherine Thompson, Mary Pearson, Gladys Belcher.
Cumberland.—Annie Boyce, May Allison, Charlotte Foster, Jean Bain.
Cornwall, Bodmin.—Arthur J. Wendon, Isaac Tiller, Alfred J. Stevens, A. R. Weller, Thomas Roskelly, Frederick E. Wadge, George Hearn, Charles J. Gill, John T. Pearce, Richard W. Bunny, J. H. Battershill, Thomas H. Bligh, Arthur J. Taper, John H. Stephens, Ernest Hamley, Beatrice M. Veale, Gladys May Wilce, Beatrice A. Bennetto, Emily T. Hamley, Lucinda Mitchell, Charles Henry Pomery.
Denbigh.—John Evans, Richard Blythen, Robert Roberts.
Derby County.—Frank Partington, William H. Hammond, Margaret Murphy.
Devon County.—Lilian E. Warner, Jessie Barrell, Ethel F. Gunn, Alice Osmant, William Trenchard, Joseph Wm. Kevern.
Dorset County.—Stanley Whetham, Alice M. Cross, Phyllis W. Osmant, Ethel May Carter, George Paul, T. B. P. Dunman, Dorothy E. Dunn, Louisa Dore, Mary Jane Lowman, P. E. Winter, Dorothy M. James, Catherine E. Adams, Evelyn M. Pitcher, Ernest F. Woolford, F. J. Christopher, Ivy Emma Allen, Shelia C. Kelly, Greta K. Sheppard.
Durham County.—F. A. E. Thompson, Ernest William Davis, James R. Bentley, James McPhee, Thomas Cowley, Ernest Scott, Frank C. Alton, John R. Holmes, Jean Thomson, Eva G. Stanley, Agnes Wigham, Florence Bradley, Mahalah E. Dyer, Maggie Keegan, Mary H. Allison, Sarah Dykes Arkle, Emily Thompson, Ada Clark, Rachel Thomas.

Essex, Severalls.—Margaret A. Collyer, Gladys E. Davies, Alice B. Dawson, Ivy Gardner, Dorothy Dunning, Ellen D. Gillings, Margaret L. Hicks, Violet Jolly, Elizabeth Kinimonth, Lily L. Leatherdale, Mary L. Loveday, C. Macfarlane, Jessie Macfarlane, Mary Mullen, Doris M. Noble, H. M. G. Palk, Gwendoline D. Price, Eveline Parker, Dorothy M. Smith, Dora Spurgeon, Sarah M. F. Still, Gertrude Sykes, Rosalind A. V. Webb, A. Oliver Sage, Leonard William Smith, Walter Melhuish, William Bailey Holmes, Frederick J. Taylor, William H. Swaine, Frederick Stirling, Charles Moore, Robert C. Wainwright, George L. Norville, Robert Bessey, William Newnham, Frederick J. Kingswell, William Orme, George H. Readman, George F. Turner, William Ready, George Henry Flatt, Albert Ed. Dixon, Thomas William Deas, George M. Hockley, J. W. Hudd.

Brentwood.—Margaret Thomas, Ethel Hare, Florence D. Double, Elsie A. E. Mudd, Emmeline B. Wilmott, Mary Kew, Eleanor Greenfield, Ivy Moat, Annie Whitehead, Henry John Richardson, George Laundry, John Victor Cressey.

Hill End, St. Albans.—William Huggett, James Charles Day, James H. Graham, Percy Phillips, Frances M. Clifton, Emily Weller, Rose Westwood.

Glamorgan.—Elsie Richards, Elizabeth Daley, Lizzie Roberts, Mary E. Thomas, Clifford Ings, Mary Davies, Edwin T. Williams, John Tudgey, Mary E. Phillips, David J. Morgan, Alice Gawthrop, Doris Crocombe, Florence A. Belsham, Margaret Vile.

Isle of Wight.—Beatrice Allen, Evelyn Allerton, Lily Beauchamp, Irene Choate, Kathleen M. Hayes, Charles E. Brown, Frank H. Griffin.

Barming Heath.—Stanley F. Adams, George W. Goldsmith, John Henry Harris, William Humphrey, Fred Lambeth, Percy T. Pronger, Victor Startup, Richard Thompson, William J. Wallis, Arthur J. Woollett, Dorothy M. Honeysett, Mary Jane Jones, Millie Killian, Bertha Rees, Beatrix Julia Wall, Anthony F. Flynn.

Chartham.—Louie M. A. Foord, Frederick G. Gould, Harold E. George, Sidney H. Stockbridge, Elsie Field, Henry E. Weatherall.

City of London.—Bessie Brown, William T. Robinson.

Bracebridge, Lincs.—George W. Hough, George Baumber, William Wilson, George A. Moss, George Wilson, Thomas Straw, William Brackenbury, Arthur Bott, Frank Weldon, Harry Wright, Herbert Norton, Eliza Rhodes, Louisa Would, Lucy M. Mannifield, Elsie Spooner, Caroline Hawks, Ivy Elizabeth Blow, Jessie Simpson, Harriett Holmes, Ada L. Cooper, Amelia White, Alicia Kendall, Florence M. Chambers, Edith Freeman, Edith Bristow, Alice Ogden, Dorothy Jelley.

Kesteven.—George Brumpton, Charles S. Boddy, John Taylor, Ambrose C. Smith, Lilly Harris, Fanny Bainbridge.

L.C.C., Bexley.—Annie Reilly, Lily Maddcock, Lucy M. Gillard, Dorothy McEntegart, Phyllis E. Knell, Dexter T. Skevington, Frederick L. Partridge, Edwin J. Waller, Sam M. Hodgson, Richard N. Lunn, Arthur G. Draycott, Arthur S. Riches, Archibald Russell, Frederick C. Thomson, Albert A. Fackerell, Leo George Knight, Alfred R. Linford, Alfred E. Mummery, John P. McAloon, Frederick George Bates, James T. Williams, Ernest C. Jeeves, Ernest William Smith, Walter E. Yates, Henry W. Tarrant, Frank S. Allen, Frederick H. Thorpe, Harry H. Ryder, Walter B. Palmer, John P. Carron, Mary Tresnan, Margaret W. Flockhart, Bessie Holloway, Nancy Galvin, Delia McHugh, Mollie Fitzpatrick, Matilda Breslin, Dorie E. C. Gowthorpe, Winifred E. Sly, Alice M. S. Collins, F. A. Parncutt, Hettie E. Jolley, Pauline Watson, Julia Barry, Hilda Emily Hendrick, Ellen M. Zallberg, Lily Owen, Laura E. Bloomfield, Hilda W. Pepper, Katherine S. Traynor, Winifred M. Allsopp, Florence Shaw, Eliza Esther Ewers, Rose L. E. Cook, Lily Mary Jones, Ida Bennett, Mabel E. Newton, Annie Macey, Bridget Dowling, Frances C. Jones, Florence E. Banks.

L.C.C., Ewell.—James A. Clark, Arthur J. Herbert, Alex. MacLennan, Michael J. Reardon, Sidney Simmons, Edward J. Bridgman.

L.C.C., Cane Hill.—Charles E. Wheeler, Arthur Brackenbury, Frank E. Buckland, George J. Norman, Percival B. Randall, Herbert H. Sayer, Amy E. Gilbert, Beatrice Londwell, Charlotte Randall, May Ellis, Sarah Ann Taylor, Florrie Myland, Violet May Westover, Emily Toogood, Gertrude Campbell, Eliza J. Fife, Violet Annie Cummings, Annie E. Cronin, May Ethel Bryson, Bertha May Jones, Edith Palmer, Susan Brewster, Lilian Daisy Revell, Johanna Donovan, Gertrude

E. Smith, Lyna Nicholson, Amy Janet Smith, Margaret Deeves, Linda B. L. Barton, Mabel Setter, Louise M. Hibling.

L.C.C., Colney Hatch.—Mary A. M. Hunter, Jennie A. O'Callaghan, Ina Marie Holder, Evelyn Rose Vince, Walter J. Hutchings, Charles Alfred Bye, Edgar John Hart, Barry James Digweed, Horace E. Paine, Henry Church, Alexander Eddie, Harry S. Diddams, William Cooper, Harold F. Barnes, Walter Robinson, Charles W. Fairbairn.

L.C.C., Hanwell.—Mary E. Fravier, Elizabeth D. Ponter, Katherine Gellard, Ceinwen Jones, Katherine L. Chew, Alice E. Weeks, Edith Martin, Ellen Payne, Margaret Dingle, Ellen A. Naughton, Olive Mary Faulks, Grace Evelyn Dear, Elsie M. Phillipson, Elizabeth Croft, Alice Maud Marke, Elsie M. Maynard, Gertrude A. Leonard, Lilian Kay, Frederick William Hillbert, Frederick Mant, Thomas Danby, Benjamin Springle, Alexander Clapperton, John E. Ayres, William Edwin Turrell, Arthur B. Clarke, Alfred James Bowden, George H. Bint, Ernest J. Newton, Thomas A. E. Marshall, Frederick Reeve, Harry E. Williams, Herbert Murrell, William Onyett, Sydney Frank Meadows.

L.C.C., Horton.—Harry Chandler, Walter J. Blunden, Herbert Stockman, Oscar H. Smith, Robert S. Spong, Harry Wheeler, Henry T. W. Appleby, Albert V. Knight, William Lipscombe, William A. Soole, William J. Oliver, William G. Cotterell, James John Sibley, George R. Stevens, George Stevenson, Sidney J. Farley, Alfred Lanceley, Eleanor Hughes, Henrietta Pinchin, Mary Dillon, Jennie Amos, Florence Hilda Hughes, Lilian G. Jordan, Harriett Clark, Mabel Edith Buck, Jeanette Buck, Florence Ellen Merritt, Bridget L. Carolan, Mary L. Wadkin.

L.C.C., Long Grove.—Henrietta Thomas, Martha Ann Wilson, Kathleen M. Holden, Carrie L. Dobinson, Ann Jane Blatchford, Louisa Law, Selina E. Andric, Annie M. Markham, Herbert Rymills, George Edward Cooper, Frederick Brown, Arthur Shrimpton, Benjamin Chapman, Sidney P. Wetherill, Richard Smith, Joseph A. Moran, William Garton, Alfred H. Durbridge.

L.C.C., Manor.—Ronald A. Partrick, John Keary, Albert Arthur Catlin, Stephen John Webb, Wilfred J. Connett, Jennie Russell, Beatrice M. Bowen, Florence G. Marshall, Teresa King, Florence Annie Lomas, Mary Alice Travers, Harriett Curling, Eliza J. Williams, Hilda Julia Moore, Florence Keeble, Helena J. Travers, Nellie Boseley, Hilda M. A. Miller, Elsie G. Pulford, Dorothy Christie, Violet Eveline Wood, Lilian Carter, Kathleen Burke, Hannah E. Hulme, Beatrice Cox, Adelaide Byrne, Edward C. Tolley.

Springfield, Middlesex.—Frederick C. Kennedy, William A. Rogers, Barbara Preston, Victoria Varney, Edith Wyatt, Fanny H. Coggan, Hilda Kate Picknell, Lilian Spray, Margaret Meaney, Mary J. Thistleton, Margaret McCann, Frances Harris, Kathleen E. A. Hubbard, Lucie Southwell, Albert E. Clifton, Walter Henry Allen, Edgar Paterson, Ernest Walker, Francis G. Reardon, Frederick G. Richards, Frederick J. Morgan, George A. Hoare.

Napsbury.—Lucy Logan, Charlotte Connor, Gladys May Milsom, Elsie E. Lovering, Jennie Whitehead, Bertha Rose Garrod, Elizabeth A. Hagon, Ernest Maybank, Annie Rose, Albert Edward Collyer, Alfred Prideaux, Ellen Leonard, George McKeag, Frederick George Ribbens, William Henry Rose, John J. Costello.

Norfolk County.—Martha Honsley, Winifred A. Foulsham, Mary E. Howard, Ethel Violet Lee, Ellen Hill, Ivy May Rudd, Fanny Heyes, Lily Lowe, Winifred E. Heugh.

Newport, Mon.—Jesse A. Davis, Henry Perkins, John Riordan, Philip E. Waller, Ada Coombs, Martha E. Lewis, Dorothy M. Wilson, Lucy Pitt Brown, Florence A. Tucker, Adelaide M. Williams, Edith Maddocks, Margaret A. Raines.

Berrywood.—Nelly Jones, Rose Higham, Lilian Sedman, Frederick G. Harrison, John Lawton, George W. Rudkin, Norman Whitlock.

Notts County.—Sarah Griffiths, Alfred L. Todd, Mabel Nicholls, Wilfred Bamforth.

Northumberland, Morpeth.—Eleanor Stacey, Margaret Owens, Margaret Finney, Jane Pringle, Ernest Moffatt, Bertram Gosling, Harold G. Callaghan, George Price, Mark H. Arnott, William Gibson Hodgson, Reginald A. Tyson, William H. Sanderson, William T. Proudlock, Charles McGregor, James Hall, John William Pearson, Violet Finlay, Edith Moore, Dorothy Johnson, Charlotte Massey, Dora Ruecroft, George Hall.

Shrewsbury.—Alice May Jones, Elsie Mary Haycocks, Doris May Pritchard, Marie Hughes, Dorothy May Mills, Mary Ellen Jones.

Cheddleton.—Helen M. Burgess, Alice K. M. Gilbert, Arthur J. Knight.

Stafford.—George Barker, Frank A. Davies, Frederick J. Dodd, Arthur Lewis, Arthur Sammons, Millie Gerrard.

Burntwood.—Joseph Garner, David William Plumb, Henry Powell, John C. Jones, Violet C. Stockton, George Guise.

Brockwood.—William T. Capon, Frederick J. B. Grenham, John Kent, John Carter, William C. Roberts, Thomas W. Willoughby, William H. Arthur, Herbert William Rapley, Herbert Coleman, Ruby F. Curtis, Minnie Hammond, Daisy J. Smith, Daisy Curtis, Marjorie Winifred Hicks, Lottie Berry, Laura Agnes Gooderham, Ava A. Chandler, Lilian Mary Cove, Hilda A. Toogood, Lucie K. Long, Margaret Brett, Ada E. Seymour, Nellie Warren, Mary McLeod.

Netherne.—Millie K. Le Lievre, Alice Kelley, Elsie F. Dodd, Annie Morris, Elizabeth Mills, Marjorie Midwinter, Mary Arthur, Charlotte Nicholls, Margaret Quinlan, Dora Michelmas, Florence Roberts, John T. Little, G. A. E. Bartlett, Herbert C. Rowland, Sydney H. Toogood, Harry C. Voller, William H. Evison.

Hellingly.—Nellie D. Hughes, Mary V. Blake, Hugh T. Clifford, Stanley E. Masters, Herbert J. Medhurst, Stanley G. Betts, Alice Marvel, George H. Townsend.

West Sussex.—Mary P. George, Bertha Mitchell, Lily V. Russell, Kathleen Scanlan, Florence May Smith.

Beverley.—Samuel Dove, Sarah Elizabeth Mant, Sarah E. Akrill, Doris K. Butler, Harry Crowe, Alice Wiffin, Eva Oxtoby, Margaret Walshe, William Slator, Thomas Anthony, Maud W. Chambers, Muriel N. Cressey.

Bromsgrove, Barnsley Hall.—David S. Creasey, Frank P. Seaman, Thomas Smith, Amy G. Barnett.

Scalebor Park.—Katherine Wishart, Margaret Wilson, Emily Richardson, Ellen Lee, Margaret Ellis, Gladys Oakley, Annie Mordue, Edith Watson.

Storthes Hall.—Eveline Gomersall, Nellie Beatrice Cooper, Olive Cunningham.

North Riding.—Arthur Turner, Walter Spence, Florence Morgan, Bridie Burke.

Winson Green.—Clara E. Bullivant, Alice Bullock.

Haywards Heath.—Percy G. Ralfe, George Bridger, William Davey, Mabel Clifford, Ethel Croxford, Lilian Webb, Walter French, Mary E. English, Winifred M. Read, Annie Barrett, Ethel Fox, George Bellchamber, Albert E. Fleckner, Robert J. Martin, Edgar S. Mullins, Ada Hodgetts, Lily Inwood.

Bristol City.—Florence May Sollars, Edward G. Roach, William J. Vardy.

Canterbury.—Linda V. Mildenhall, Sabina S. Mildenhall, Lilian B. Honey, Ernest W. Harris.

Derby Borough.—Florence Frost, Annie Naylor, Ida Mary Wilkinson, Thomas Boole, Richard T. Chater, Joe Leigh.

Exeter.—Edwin W. Lane, John William B. Wills, Charles F. Crook, Alice Blanche Wood, William Woolf, Henry S. Henderson.

Gateshead.—Victor S. Dodds, Francis William Henry.

Hull City.—John Ellison, Mabel Cook, Gladys Edith Neal, Alice C. Scholes, Hilda Watson.

Leicester Borough.—William C. Hernon, Timothy G. Elliott, Margaret Kenna, Marjorie Winfield, May I. B. Litchfield, Rose E. Clarke, Mary J. Byrne, Doris Ward.

Notts City.—William Briggs, George Percy Barrow, Willie A. Ryan, Emily Grange, Edith A. Chambers, Mary M. Rose, Dorothy May Hill, Annie L. Bradbury, Bridget Casey.

York City.—Leonard Knight, Annie McKeen, Elizabeth Pickering, Elsie Poynton.

Plymouth.—Gladys Maud Angear, Vera Mabel Bounds, Marie Adelaide Moore, Ivy H. W. Tedder, Rhoda May Wyatt, Claude Bartlett, Ernest Brooking, Bertie Ernest Camp, John H. Moore, Edwin H. Ryder, Arthur Worth.

Portsmouth.—Edith Mary Lillington, Gladys I. M. Stretton, Gladys A. Brownie, Eva Maud Pitt, Josephine McGrath, Ivy Barnes, Mabel White, Emily Williams, Albert F. Southwell, William E. Williams, Percival Lance, Charles Hurlings, George Read, Robert E. Jerram, John Henry Swan.

Sunderland.—Andrew McGreever, Thomas McNulty, Thomas G. Minto, Thomas Mulleney, James Page, Thomas Richardson, Samuel Smith, Thomas Young, May Cowley, Hannah Bell Crawford, Charles Edward Haynes.

Tooting Bec.—Maria Walker, Maud Mayhew, Eva A. Rogers, Phoebe Waugh, Martha Ann Evans, Doris Marmont, Florence M. Townson, Elsie E. Williams, Frederick G. Cable, Frederick Ford, Charles Hope, Arthur Price, Thomas Higgins, James Newsom, William Richards, Sydney T. Hubbard, Walter T. Mortley, William Robert Humphries, Frederick Shelley, Rodney W. Morris, Eric Robert Moss, John Gahagan, William A. Crouch, George L. Hammond, Arthur Taylor, Hermann T. B. Brewer, Alfred G. Barkham, Thomas Barrett.

Leavesden.—Thomas H. H. Simmons, John Labram, Reginald E. Williams, William G. McLean, Hubert Brown, Grace B. Pearce, Annie Harding, Elsie G. Gridley, Jane E. Higginson, Nellie Howard, Dorothy R. Scott, Margaret H. Wellstead, Maud F. Ware, Olive Miller, Horace G. Hill, William H. Chandler, Joseph Turnbull, Frederick John Hudson, George Rowe, Charles Brittain, Arthur J. Palmer, George William Davis, John H. Chapple, Edwin J. Miller, John J. Narroay, George Ed. Taylor, Horace J. Kempster, Frederick H. Horsnell, Harry Hardwick, William Billing, Percy Lawrence, Frank N. Bradford, Harry Tilby, Herbert Dade, Donald King, Frederick Davison, Edwin B. Jackson, George Melton, Flora Bennett, Minnie Patterson, Elizabeth M. Kelsey, May Jones, Elsie R. Stead, Annie Beasley, Amilie R. A. Hill, Emily M. Moore, May Jarrett, Elsie M. Cooper.

Darenth.—Sarah K. Joyce, Myrtle L. Willmott, Amy Thorpe, Rose E. Gallon, Ethel M. Easton, Ellen E. Simpkin, Florence Simpkin, Phoebe Kempton, Annie D. Thorne, Annie Burks, Agnes M. Brigden, Elizabeth Addison, Nellie A. Ridway, Helen L. Ackland, Winifred M. Palmer, Rose M. Tipper, Sarah A. Farrance, Ella Coughlan, George F. D. Crook, Francis W. Jackson, James R. Draper, Walter H. Connor, E. Charles Walker, William J. Butler, Frederick W. Fairbrass, Edmund Kinchin.

Caterham.—Alfred William Thorpe, Samuel Parker, Florence M. Trusler, George W. Fray, Ben Hatch, Kathleen Foreman, Mary T. O'Rourke, George Kearns, James T. Gray, Henry J. Barlow, Francis H. Redrup, Frederick C. Finch, Frederick H. Edens, James Knapp, Hector J. Wade, Herbert Cheeseman, Margaret Barry, Dorothy G. Jackson, Ernest J. Budd, James C. Pritchard, Percy W. Turner, George Dunaway, William Sharman, Elizabeth Thomas, Margaret Francey, B. M. L. Smith, Nora O'Rourke, Agnes M. A. Matthews, Charles Ray, Agnes Bourke, Gwendoline Newman.

Fountains (Temporary).—Hilda F. Pipe, Winifred Pointer, Florence Aldred, Dora M. Eggleton, Rose Waters, Margaret Thompson, Ivy Darbin, Clara R. Lusher, Madeline A. Bowra, Gladys L. A. Lewis, Marguerite Carey, Ena Davies, Frank Bowers, Joseph M. Simcox, William Bass, Jane A. Weller, Hilda Passmore, Jane C. Lawrence, Winifred D. Medcraft, Dorothy Deane, Lily Waters, Florence Willerton, Rose Small.

Bailbrock House.—Florence Pick.

Barnwood.—Hilda May Compton, Dorothy Minett, Elsie F. Shelswell, Florence A. Hart, James H. Day, James Dance, Frank H. Winkworth, Wm. Braithwaite, Wm. Charles Hancock, Frank J. Clissold, Charles J. Virgo, Thomas Harris, Harry A. Huggins.

Bethlem.—Bridie Hunt, Doris Daisy Jupp, Edith Mary Trigg, Daisy Burch, Marie R. Fletcher, Mary Christie.

Brislington House.—Emily N. Case, Elsie M. Coles.

Bootham Park.—Janet Guthrie, Tacy Newbound, Harry Rawson, Oscar Shaw, Michael O'Rourke, John Wm. Dobson.

Camberwell House.—Dorothy E. Cullum, Annie R. Smith, Emily Hodgkins.

Cheadle Royal.—Lucy Nash, James Loftus, Walter Brough, Frank Wood.

Coton Hill.—Doris Greenfield, Elsie Howard, Charity D. Derry, Mary E. Jones.

Coppice, Notts.—Patrick J. Gough, Frederick J. Woolnough, Arthur E. Elsworth, Jessie Waterfield.

Middleton Hall.—Louie Leonnard.

Moorcroft.—Lilian E. Chetwin, Albert G. Guley.

Peckham House.—Florence G. Pooley, Mary P. Brennan, Ada Pearson, Ada P. Diss.

Retreat.—Edith M. Bertinshaw, Annie M. Evans, Janet L. Glendinnings, Norah Mann, Hilda F. Priestley, David I. Roberts, Fred Wilson.

St. Andrews.—Bridget M. Fennesy, Brigid McNally, Lucy Briggs, Annie Byrne, Mary Shanahan, Thomas A. Rickard, Harold G. Bartlett, Archibald J. Mills, Ernest Irving, Joseph Faulkner, Thomas P. Hawker, Harry B. Furn.

Ticehurst.—Annie Gibbons, Annie M. Kendrick, Beatrice A. Webster.

Holloway Sanatorium.—Charles W. Barkham, George F. Worth, Charles William Dyos, Philip H. Pike, Harry Evans, Gwendoline M. Lowe, Ivy E. Fox, Clara Lovelock, Rose A. M. Jeffs.

Warneford.—Gladys G. Phipps, Florence M. Jones, Dorothy M. Philps.

Aberdeen Royal.—Ann E. M. Souter, Isabella Clark, Lizzie Guthrie, Margaret Ross, Gertrude Paterson, Christina Cordiner, Isabella Horne, Clara Mitchell, Maggie Alexander, Jean Brigid Ord.

Aberdeen District.—James Gerrie, William Grant, William Warrick Burnett, John Ledingham, George R. Burnett, Jeannie Matthew, Elizabeth Park, Mabel Watson Roy, Margaret Ellen Grant.

Ayr District.—Margaret Love, Lily W. Beavis, Hannah Campbell, Elizabeth H. M. Happle, James Paterson, Robert F. Geddes.

Argyle and Bute.—Jessie Macdonald, Isabella McConnachie, Christina Macdonald, Mary McLachlan, Mary McGilp Ferguson, Mary McDonald, Annie E. McPhee, Isabella McMillan.

Banff.—Elizabeth Munro, Edward Donald, John Gardiner.

Crichton Royal.—Margaret Stewart, Agnes Robertson, Joanna C. Duncan, Elizabeth K. G. Mowbray, Margaret M. Drummond, Elsie M. Scott, Ethel McSherry, Elizabeth M. Handley.

Edinburgh Royal.—Joan Newstead, Janette K. McCargo, Mary Lucas.

Craig House.—Mary McGovern, Johan Sinclair, Harry Jackson, Nannie Tait, Elsie D. Mackenzie, Christina Henderson, Mollie Moran.

Elgin.—Charles Robertson, John McLaren.

East Lothian.—Helen Cosgrove, Mary G. McDonald.

Fife and Kinross.—Lily Fraser, Mary Fleming, James G. McKay, John H. Grome, Margaret Brown.

Gartnavel.—Christina McKenzie, Christina Morrison, Ada Mason, Mary Johnson, Veronica Eardley, Elizabeth Drysdale.

Gartloch.—Neil McKenzie, Emma Duffy, Annie Nicholson, Mary J. R. Devlin, Jean Clarke, Elizabeth Carroll, Jessie Helen Keir, Isabella M. Wilkie, Kennethina Mackay, Rachael McCaskill, Grace Tennant, Edward Hannan, John Kilgore, Daniel McKay, Harry Atkins, John Kirkwood, William McManus.

Woodilee.—Patrick McTernan, Marjory Whyte, Isabella Baigrie, Rebecca Bain, Jean Brandie, James Cooper, Thomas McAuslan, Edward Moy, Murdoch Cameron, Andrew Orr, David M. Stirling, John Philp, Norman Corbett, Sara Rodgers, James Stuart, Margaret P. Cameron, Sarah Upton, Janie Kerr Nelson, Agnes Jarvie, Rose O'Neill, Rachael Shanhan, Catherine Docherty, Helen D. Watt, Catherine McDougall, Mary Galloway, Mary Wilson.

Hawkhead.—Malcolm McCormick, John Macdonald, James Rae, Thomasena Begg, Edith Johnson, Flora Macdonald, Mary Procter.

Inverness.—Jane Chisholm, Sussanna Fridge, Jessie F. Parker, Madeline Fridge, Catherine Fraser, Elizabeth Leith, Florence Macdonell, Lily Ellen Chisholm, Annabella Mutch, Duncan Munro.

Kirklands.—Richard Gibson, John McLaglan, Isabella Baird, Mary Magee, Jessie Hutchinson, Isabella Grant.

Lanark.—Elizabeth E. Young, Margaret Winning, John Campbell, Donald Graham, David Henry Jackson, Robert Leggate.

Melrose.—Hannah M. Smythe, Margaret Cameron.

Montrose.—Flora A. Campbell, Jean Kerr McFarlane, Elizabeth Mackinnon, Elizabeth M. Milne, Gladys M. Mortloch, Jessie Patterson, Mary C. Samuel, Edward David McKay.

Murray.—Alyce S. Middleton, Violet Jack, Marion Anderson, Joan Grant, Mary Aitken.

Perth.—Helen J. Brodie, Annie M. Fyfe, Helen Sutherland, Elizabeth Fairbain, Christina Macdonald.

Riccartsbar.—Duncan Campbell, Thomas Matthew, James Cruickshank.

Scottish National.—Mary Pugh, Margaret R. Hutton, Mary W. Dolgetty, Janet Bryce.

Larbert.—George S. Cameron, Christina Scrimgeour, Mary M. Clapperton, Delia Bradley, Barbara Whyte.

Stonevettes.—Annie Thomason, Jean Pollock, Brigid Kane, Isobel A. Beattie, James Inglis.

Armagh.—John Rice, Maggie Rooney, Emma Neville, Owen Murphy, John Devine, Susan Carroll.

Richmond.—Annie Foley, Mary C. Reid, Catherine Dunne, James Costello, Joseph Kerrigan, John O'Toole.

Monaghan.—Elizabeth Sheridan, Thomas Simpson, Marcus Maxwell, Philip Murtha, Patrick McQuillan, Joseph McElroy.

Omagh.—Thomas Coyle, Patrick Fullerton, Michael Hunt, William S. Moore, Margaret Clarke, Maggie Devlin, Sarah Jane Guy, Eileen McAleer, Mary A. McEnnill, Mary McHugh, Mary Agnes Rodgers, Rose Sharkey, Letitia A. Thompson.

St. Patrick's Hospital.—Sarah Branigan, Francis Callaghan, Lillian Quin, Maud Williams.

Belfast.—William J. Flanagan, Cathleen Magee, Mary McLaughlin, Edith McCullough, Annie Clements, Maud Moffatt, Helena Fuery, Teresa Murray, Agnes Young, Elsie Nesbitt, Johanna D'Arcy, Adina Martin, Martha E. Rowland, Minnie Stoops, Alexander Murray, John McCrudden.

Portrane.—Thomas Devally, Peter Higgins, James Carney, Mary Feeley, Margaret M. Fitzpatrick, Teresa Fitzpatrick, Saidie Davey, Mary Coyne, Mary J. Eaves, Bridget O'Callaghan.

Ballinasloe.—Thomas Coleman, Peter Dooley, Mary Anne Dolan, Annie Keatings, Katie Guinnesssey.

Bethlem.—Thomas W. Channell, Stanley G. Gayland, Joseph H. Wheeler.

Peckham.—Walter R. Wood, J. O'Connell.

West Ham.—Ethel F. Baker, Rose O'Kill, Cecilia D. Barber, William J. Perkins, Lewis John Hazeldene, Herbert F. Everett, James King, George Frederick Ball, Herman Jones, William G. Golding.

Hants County.—Alexander Walker, Frederick Jones, Samuel Henry Giles, Owen W. Pharoah, Bertram R. Jelley, May Bocher, Lilian A. Banting.

Warwick County.—Teresa Dunne, G. S. Fowler, Bridie Dunne, M. Rainbow, Percy Ashbourne, James W. H. Mason, John Frederick Yardley, Ernest A. Prestwich.

Federated Malay States.—Cheng Yean Ooi, T. Nagaretuam Ponnioiah.

Pietermaritzburg.—Dora E. Shuttleworth, E. M. V. Biggs, A. W. Taylor.

Pretoria.—M. J. Mandy, A. M. E. Fourie, F. Statham, C. F. Marais, F. Nixon.

Grahamstown.—A. M. Penn, H. M. Scholte, C. J. Van Eyssen, L. M. Kent.

Valkenberg.—J. A. Burger, H. S. Lotter, S. F. Steenekamp, M. S. J. Van Heerden, C. M. Van Jaarsveld, J. Van Zyl.

Fort Beaufort.—E. C. Yorke, E. V. Bezuidenhout.

Bloemfontein.—M. M. Coetzer, T. G. Victor.

FINAL EXAMINATION, MAY, 1920.

List of Successful Candidates.

Three Counties, Hitchin.—John Henry Buckley, *Albion Clifford, Basil L. Prior.

Fulbourne.—James P. O'Hickey, Ruth Handshaw.

Chester County.—Elsie Littler, *Sidney Bretherton, Martha H. Jones, Evelyn Bailey, Nellie Hiron.

Macclesfield.—Annie James, Martha Annie Ford, Edith Beach.

Cornwall.—Lily Bassett, Mary Kent, Lottie Harris.

Denbigh.—Annie Lewis, John Blythyn.

Devon County.—Moses Dorey, *Harry Channing, Harry Winson.

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Quarterly Meetings.—November 25th, 1920; February 25th, 1921; May 26th, 1921.
South-Eastern Division.—October 14th, 1920, Three Counties Asylum, Arlesey.
South-Western Division.—October 29th, 1920; April 24th, 1921.
Northern and Midland Division.—October 21st, 1920, The Coppice, Nottingham; April 21st, 1921, Gateshead Mental Hospital, Stannington.
Irish Division.—November 4th, 1920, College of Physicians, Dublin; April 7th, 1921; July 7th, 1921.

APPOINTMENTS.

JOHNSTONE, MISS E., L.R.C.P.&S.Edin., L.R.F.P.&S.Glasg., Assistant Medical Officer, City Mental Hospital, Leicester.

NOTICE TO CONTRIBUTORS.

N.B.—The Editors will be glad to receive contributions of interest, clinical records, etc., from members (whether these have been read at meetings or not) for publication in the Journal. They will also feel obliged if contributors will send in their papers at as early a date as possible in each quarter.

Writers are reminded that, according to LIX(a) of the Articles of Association, "all papers read at the Annual, General, or Divisional Meetings of the Association shall be the property of the Association, unless the author shall have previously obtained the written consent of the Editors to the contrary."

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MEMORANDUM.

The Annual Subscription for Ordinary Members of the Medico-Psychological Association will be £1 11s. 6d. after December 31st, 1920.

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